The Builder.

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THE employment of coloured decorations increases, promises indeed to be general, and should lead our young artisans and others to become draughtsmen and designers, and so availing themselves of the demand, improve their condition. In the private exercise of our profession we have, at this time, decorations going on in three or four places; and it is a constant source of annoyance to us, almost pain, to find that English workmen cannot be obtained for this purpose—at least so say the masters, who, moreover, profess themselves anxious to obtain English assistants, and vexed at being obliged to send to Germany or France, for what they ought to be able to find in London without difficulty. At the little works to which we have referred, and at any similar undertaking now going on in England, a visitor would fancy himself in a foreign *atelier*,—moustaches, rolling hair, and jaunty smoking caps, distinguishing the occupants.*

Let it not be supposed, however, that we are so illiberal and so short-sighted, as to object to the employment of any but our own countrymen, or to desire that foreigners should keep at home. Quite the reverse. An examination of the industrial and artistical progress of England shews, too plainly, how much advantage has resulted to this country from pursuing a contrary course, to allow us to fall into this error, even if our opinions were less liberal than they are. What we did (on another occasion) object to, was the repeated employment of a foreigner as director, by corporations and authorities on the ground of superiority, to the prejudice of Englishmen equally or more competent; and what we do now grieve at is, that our operatives should still remain so wofully behind-hand in matters of art as they are, to their own great loss and the discredit of the country.

Art, which ought to be the affair of all, has not received proper attention in England, still less encouragement. Much has been done within these last five years, and our prospects are brightening, but very much remains to be done, and demands strong efforts on the part of Government and those who properly appreciate the importance of the question.

One great aim should be to make the study of drawing general; it can be acquired as writing is, by the meanest capacity,—that is, mere drawing,—and we would have it taught in every "national school," and every other educational institution throughout the kingdom, as one of the indispensable rudiments.

That it should be neglected as it is, even by the superior classes, is quite extraordinary,—it is positively the neglect of a faculty.

By not acquiring a knowledge of drawing, we give up a means of conveying impressions, and explaining intentions, in addition to reading and writing, and of universal application. Instead of regarding a knowledge of it as an accomplishment, the want of it ought to be considered a disgrace; and we hope the time is not far distant when this will be the case.

A love of art should be encouraged amongst our operatives by every possible means. In France, art is cheaper, and goes lower than it does here; and therein lies the secret of the superiority of their workmen in departments requiring the exercise of it. Our galleries, collections of works of art, museums, and ancient buildings, should be opened freely to all; and by the contemplation of works of beauty, the general standard of taste would be raised, and a power of discrimination gained.

It is much to be desired, too, that government should issue, at a cheap rate, some good works on ornamental and decorative art; the want of such at moderate cost is greatly felt. Such a step would seem to fall within the province of the educational committee of Privy Council: it could not fail to be productive of much good, and would be considered a boon by a large number of persons.

There is no want of talent for art in this country, but there is astounding ignorance: what we need is, the removal of the latter, and the means of efficiently developing power. The establishment of schools of design was a great step, and cannot fail to produce good results; less or more so, of course, according to the manner in which the institutions are conducted. But what we wish to do is, to make *every* school a drawing-school, and to accustom every one, gentle and simple, to the use of the black lead pencil.

At present, the established decorators say, little assistance is to be obtained from the central School of Design. Still we have had occasion to mention favourably the names of some who have proceeded from that establishment, and much as alteration seems wanting there, are willing to be patient and give time.

In the Queen's Pavilion, the Opera House, Buckingham Palace staircase, &c., some of the pupils were employed, and acquitted themselves well. Another very considerable work of this class will be commenced at the end of the year. As much as four or five thousand pounds will be spent, we believe, in decorating Covent-garden theatre, and it is to be hoped that opportunities will be afforded for the employ of English artists, and that these in their turn will find English artistical operatives to carry out their designs.

There has been much to prevent the progress of ornamental art: the duty on glass, only recently removed; the duty on bricks, still continued, discouraging the attempt to produce ornamental forms; the employment of *cast-work*;—the dis-esteem in which decorative artists have been unjustly and unwisely held; have all aided in depressing it. A demand for it, however, is now arising, and it will be our own faults if we have to go abroad for the supply.

The elaborate engravings in our present number illustrate an example of ornamental carved work in France, of the Renaissance period.

BLACKBURN EXCHANGE COMPETITION.—The following is the order in which Mr. Cockerell placed the ten designs selected as the best. The substance of the arbitrator's report we have already given:—No. 1, Messrs. Brenkspear and Dixon, Manchester (*50l.*); 2. Messrs. Bankes and Clarkson, London (*20l.*); 3. Mr. Wilson, Bath (*10l.*); 4. Messrs. Mee and Webb; 5. Mr. Young; 6. Mr. Blair; 7. Messrs. Starkey and Duffey; 8. Mr. Stephen Salter; 9. Mr. Fish Taylor; 10. Mr. W. Orford.

* Among the decorations most recently visited by us, are those of a hall, staircase, and suite of rooms for Mr. Fergusson, in Langham-place, by Messrs. Collman and Davis. These are all carried out in flat colours, approaching mosaic work, and, though of course less expensive than where copies of natural objects and shadows are introduced, are very satisfactory. Mr. E. T. Parris has some extensive works in progress. Mr. Aglio is engaged upon a drawing-room at Earl's-court, to which we shall refer when finished.

ANNOTATIONS ON IRON.*

LIGHTNING CONDUCTORS.

THE disposition of iron externally, at least in high and exposed situations, should be judiciously considered, in reference to its attraction for lightning; frequent instances have occurred of explosions taking place in the summits of spires, from the finial and upper courses being bound together by an iron bolt, and there being no superior conductor to avert their destruction. Where there is no conductor, but a series of conducting bodies, with intervals of masonry between, much mischief may be expected from explosions at the interruptions. Iron rods have been much used for lightning conductors, and are still so employed; but they are fast giving place to copper tubing, which has a great superiority, for two reasons: firstly, copper has five times the conducting power of iron, and secondly, tubing presents nearly double the surface of a solid rod for the passage of the fluid—perforations being made at the summit, and at intervals downwards, to admit of its descent inside as well as out. Copper is also better than iron from its less destructibility by rust or fusion: wire ropes have long been used in some parts of Germany in preference to rods—no doubt from the greater quantity of surface they afford. When holdfasts of iron are employed, they should be of cast-iron, as being the most durable, and be painted, and wrapped in old silk dipped in melted tallow, which, being non-conductors, serve the purpose of insulating the rod; or the neck of a bottle introduced would more effectually serve the same purpose. But although iron holdfasts are generally used, their liability to expand and be operated upon by the changes of the weather, are disadvantages which lead to a preference being given to several other substances. A block of glass, or of Valentia slate, with a projecting eye, and let into the masonry with cement, being both of them non-conductors, are respectively recommended. Eyes of oak driven into the joints are also used. The manner in which the wires of the electric telegraph are insulated in their points of support, as lately executed about York, is worthy of note, as bearing on this subject.† Small castings of the same material as stone spirit bottles, barrel-shaped, open through from end to end, and with a small semi-circular channeling round the middle outside, are placed horizontally against the side of the posts, and there secured with metal staples, girding them by means of the channeling aforesaid. In these hollow barrel-like castings the conductor rests, loose, and perfectly insular. Provision should be made to allow of the expansion and contraction of the conductor, which, where tubing is used, is advantageously accomplished by soldering or otherwise securing a piece of smaller tube an inch down in the lower length, and letting it stand, say five inches, in the upper, so that the latter can rise or fall on it, according to the influence of the weather; this should be done over the holdfasts, in which the conductor should rest, by means of a band or ring of larger tubing soldered round it outside.

It is stated that a lightning conductor protects an area around it whose radius is double the height from the ground to the point; it is also agreed, that not only do conductors protect from lightning the buildings on which they are fixed, but by silently and imperceptibly drawing off the electricity from the clouds, they mitigate the violence of thunder-storms, and thus extend the benefit of their influence to the neighbourhood. The conductor should be attached to the highest part of a building, and project a few feet above it; it should be carried down in as straight a line as possible, without any interruption to its continuity, and terminate in a furcated form below the foundation, in a deep trough or depression in one of the drains, where it will at all seasons be in contact with water; or in a deep pit in the subsoil, and surrounded with the graphite from gas retorts, which, besides being indestructible, is an active conductor, and therefore well calculated to facilitate the dispersion of the fluid into the earth. Where there are several similar pinnacles on a tower, a conductor on

* See p. 459, *ante*.

† These wires are zinked iron, about one-sixth of an inch thick—the zinking being about one-fiftieth of an inch: the conducting power of zinc being to that of iron as 3 to 5, it thus serves the double purpose of protecting the iron against decay, and affording a more perfect vehicle to the electric current.

one, and a globular glass repeller on each of the others, will suffice. Where possible, the conductor should be kept far away from other metallic bodies, otherwise lateral discharges are likely to take place, since electric fluid, besides seeking a direct, avails itself also of a wide path. Where the vicinage of other conducting bodies is unavoidable, the possible passage of the fluid should be converted into a certainty by a metallic communication, and the other conducting train made complete; in any case it is advisable to convert, by strips of metal, the metallic bodies and surfaces about a building—such as copper or lead coverings, lead or iron rain-water pipes, &c., into continuous conductors, terminating in the ground. The top of the conductor may consist of a solid piece, say 2 feet long, tapering towards the ends from a thickness of 1½ inch in the middle, its upper end gilt or tipped and pointed with platinum, to preserve it from corrosion, the lower screwed into the mouth of the tubing. The conducting power of iron in relation to other metals is as follows:—lead, 1; tin, 2; iron, 2·4; zinc, 4; and copper, 12. Some further remarks on this subject will be found in THE BUILDER, vol. ii., p. 550.

PROGRESS OF THE BATHS AND WASH-HOUSES IN WHITECHAPEL.

OUR recent notices of the baths and wash-houses at St. Pancras have reminded our readers of the existence of another scheme, commenced some time since under rather favourable auspices. The improvement of the condition of the working classes, fellow labourers with *ourselves*, is an object to which this journal is not less devoted, than to the advocacy of good methods of construction, and convenience in their dwellings. We should unite these objects were it not impossible to separate them. Consequently, when the first step was taken, just two years since, towards the establishment of the desirable institutions referred to, we were amongst those who looked anxiously for the good results, which were expected speedily to follow. We have taken some trouble to ascertain the position in which the project at present is, and though we are disposed to give some credit to the committee for an anxiety to make the model building in Goulstone-square perfect, we are not quite satisfied as to the reason of a delay, which is strangely at variance with the alacrity at first shewn. We can never recommend in any case, that a building be commenced without proper advice, a well-considered plan, and great attention to convenience and stability,—any thing short of these would be opposed to the principles which this journal has constantly striven to inculcate,—but consistently with these requisites, there was certainly ample reason why the benefit of this project should be reaped as speedily as possible. The sympathies of the wealthy had been enlisted by veritable pictures of the lamentable state of misery, in which an immense number of persons existed, which was occasioned in some way or other, either by want of water, or the defective but expensive arrangement of their dwellings. It was found, that a great portion of this misery could be reduced by providing facilities for cleanliness elsewhere, and the discovery should have been turned to account at once.

The reports of the Health of Towns Commission, the speeches at the public meeting, and the documents themselves, issued by the committee, are painfully convincing of the truth of the assertions and the easiness of the remedy. The sympathy of the rich is liable to fail, unless some benefit be seen to result, and the expectations of the labouring classes, which the project had raised, should not have been disappointed. We know that the greatest anxiety prevails amongst the latter; but the effective co-operation of the former, we fear, has been endangered. The evils were so great, that their continuance for two years up to this time, and pending the completion of the model building, however desirable that may be, should not have been allowed in charitable England. If the project of baths and washhouses is to have the good effect which it ought to produce, the promoters should not rest till there are establishments at everybody's door. All London, in which the evils of their absence are known to be peculiarly prevalent, cannot go to Whitechapel twelve months hence, or to St. Pancras now. Surely it would not have been impossible to fit up a few baths and washing-tubs in various quarters of the town, during the tardy completion of the model establishment. Such limited accommodation, we believe there is, or was in one instance, and the best results proceeded from it. The project of the committee has already been reduced from four model buildings, each of several stories in height, to one building of one story.

We are anxious to give the committee credit for what they have already done. The building in Goulstone-square is well built, and is fire-proof. We have no doubt that the novelty of the object occasioned many difficulties, which would not occur again, and so far everything seems to have been most carefully considered. But the building is only now being roofed in, and no definite time is looked forward to for the completion. Indeed the work was only commenced after the beginning of the present year, since which time there has been unexpected difficulty in the foundations, and delay in the supply of the castings during the hot weather, which stopped the works at several foundries.

The building occupies a square piece of ground, and is divided by walls into three parts. Half the area, at the back, is to be devoted to the washing department; the other half is divided into two equal parts, and will be for baths. The whole building is vaulted beneath, and this portion, which will be used principally for store rooms, will have to be lighted with gas. Beneath the baths on the north side is a large reservoir, which will be supplied with water from the New River Company's pipes. The rain-water, which is conveyed from the gutters by means of the hollow columns which support the roof, is not made use of for any purpose. The sides, the vaulting, and the bottom of the reservoir, and the piers which happen to stand within it, are coated with the Seyssel asphalte, and the outer walls are tied together by iron rods, strongly nutted and screwed on the outside. The bottom of the reservoir has been formed of inverted arches, and has been contrived so that it can be readily cleaned when necessary—a drain being also provided for it for that purpose. The main drain is carried into that of the brewery adjoining. Had not leave been granted for this, that part of the work would have been of a very expensive nature, as there is no main sewer for some distance. In the basement beneath the washhouse, are two large boilers for the supply of hot water, and there is a steam-engine, by which the ventilating apparatus will be worked, and water pumped into a tank, in the centre of the building, at a sufficient elevation for the supply of the different departments. In the centre of the building is a circular chimney, which is enclosed by a wall, forming a square on the plan, on which rests the tank above-mentioned. The space between the circle and the square, forms the only means of communication between the different departments. The wall dividing the wash-house from the baths, is wholly in cement, as also are those parts of the external wall, which support the ends of the girders. The building, which we have said is of one story, has an iron roof, framed in divisions of about nine feet span each, which spring from hollow gutters, about fourteen inches by ten inches, which also act as girders. These last, in the wash-house, are each supported by two columns, the length of the centre distance being about thirty-three feet, and at each end about twenty-three feet. The longer girder is trussed with an iron rod at each side. The upper part of each roof will be boarded and slated; the lower part will be glazed. There are also windows in the walls, the frames being in both cases of iron. The area of the wash-house is about eighty feet by fifty feet. It will be divided by slate partitions into compartments, perfectly independent of each other. The floor will be of slate, on arches. The entrance is entirely distinct from that to the baths.—The baths will be about 150 in number. They occupy the first half of the building.

The ventilation will be effected, partly by openings in the roof, and will be partly mechanical. So far as the arrangements can at present be understood, the fresh air will be admitted by a shaft at one angle of the building, from which it will be drawn by a machine, and the foul air will be removed by the central shaft. The offices and check-taker's room are not yet developed; but they will not occupy a very large portion of the present area. The superintendent's house has not been commenced; it is to be built on a piece of ground on the north side. The principal elevation is of red brick, with white bricks as dressings to the windows; there is a stone cornice, and the whole is of very plain character. The state of the works, though not much advanced, is satisfactory as to construction. Indeed, no expense and care seem to have been spared, to render every thing as good as it can be made. The building is well worth a visit, and might give some useful hints to many of our younger readers, who may not often have the opportunity of seeing so much construction in iron-work. The architect is Mr. P. P. Baly, who superintended the construction of the Hungerford suspension-bridge, under Mr. Brunel. Mr. Piper is the contractor.

On the whole, we are induced to think that this building, if continued in the manner in which it has been commenced, will be satisfactory. But, although the novel nature of the purpose doubtless required an unusual degree of attention, we cannot see a satisfactory reason why, after an interval of two years, we should have to apprize our readers, that the benefits contemplated are still far from being attained. We cannot believe that the committee are unacquainted with the extent of the evils, which they have undertaken to remedy; but at the present rate of proceeding, the building promises to be as long in hand as the Nelson monument. We entreat the committee not to suppose there are greater difficulties than there really are; and we are sure that, could they look forward to the opening of the building with the same anxiety which is felt by many industrious families in the neighbourhood, a little more energy would be remarkable in the progress of the works, and that quite consistently with other requirements, as much desired by ourselves as by the committee. We trust that the speedy formation of many other establishments of the same kind, in every part of the metropolis and the kingdom, will not be lost sight of any longer.

MODIFICATION OF THE BUILDINGS ACT.

PARTY TIMBER PARTITIONS.

THE following directions for a modification of the Act have just been issued by the Commissioners of Works and Buildings:—

"Whereas the official referees have by their report in writing, bearing date the twenty-seventh day of May, one thousand eight hundred and forty-six, certified to us that it is their opinion, that the rule in section 33 of the said Act, with regard to the party timber partitions of existing buildings, and any wall under or over the same, situated within the limits of the said Act, namely, 'That if one of the buildings be rebuilt, or if one of the fronts of any such building be taken down to the height of one story, or for a space equal to one-fourth of such front, from the level of the second floor upwards, then it shall be the duty of the building owner, and he is hereby required, to pull down such timber partitions, and the walls under or over the same; and, in lieu thereof, to build a proper party-wall,' will, if taken in the fullest sense, defeat some of the objects of the said Act; and that by the adoption of the modification of the said rule hereinafter directed, the objects of the said Act will be attained, either better or as effectually. And whereas the official referees have also stated in such report the grounds of such their opinion, and on the investigation thereof it appears to us, the said commissioners, that such opinion is well founded. Now we, the undersigned two of the Commissioners of Works and Buildings, pursuant to and in exercise of the power in that behalf given to us by the said recited Act, do direct, that the modification so recommended may be made by inserting after the section above quoted, the following words, videlicet, 'Nevertheless, if on special application in that behalf it be made to appear to the official referees, that for the purpose of public improvements by or under the sanction of parochial or other public authorities, it is expedient to permit the partial rebuilding of an irregular structure, without requiring the pulling down of all the portions thereof which are

irregular, or to the extent herein-before required, it shall be lawful for the official referees, by their certificate, to authorise the taking down and rebuilding of one of the fronts of a building, without pulling down such timber partition, and the walls under or over the same, and building a proper party-wall in lieu thereof,' which modification being made in such rule, will, in our opinion, give effect to the purposes of the said Act: as witness our hands this first day of September, one thousand eight hundred and forty six.—(Signed)

MORPETH,
CHARLES GORE."

*** The injurious effect of the clause now modified, in respect of preventing public improvements, widening streets, &c., was pointed out in THE BUILDER soon after the passing of the Act.

THE STYLE OF THE PROPOSED NEW PALACE.

SIR,—*Blackwood's Magazine* of this month contains an excellent article, entitled, "How to Build a House and Live in it," in which the caustic pleasantries of the writer are mixed up with sound and sterling truths, worthy of all architects to bear in mind. Thus, when it is said, "a bad architect is always seeking after ornament to conceal his mistakes of construction," the remark should deter really able men from falling into the same error, lest they be classed with inferior professors, and to some of even our very greatest architects part of the reproach will still too justly apply; for, as the writer observes, "in public buildings the rage for covering blank spaces, and for getting rid of sharp edges or corners still continues;" and the danger to be feared is that profuse decoration and extensive panelling executed in stone, and sanctioned by the authority of a great name, will be copied in the quantity, but wanting the quality, in compo, or some other wretched substitute for reality. It is gratifying to me to see the sturdy cudgel of Christopher North attacking a system against which my feeble lance was hurled three years ago (letters of PHILO-TUDOR, June, 1843, in THE BUILDER), and the abominations of the *compo*-site style are still on the increase. "Maga" says, "This has been one of the curses of all architectural and ornamental art in modern times, that every thing has been imitative, fictitious, sham, make-believe; brick is stuccoed to look like stone, and fir is painted to look like oak." The following remark has great justice in it:—"Ornament, to be effective, need not be abundant,"—and the truth of the maxim, though not borne out by the general practice of men in the present day, is sufficiently tested by the works of Wren, Inigo Jones, and Chambers; indeed, the entire enriched work on the outside of St. Paul's Cathedral (over and above the actual architecture of the fabric) would hardly suffice for the front of a modern tradesman's house. One more quotation from *Blackwood*, "good stonework without, and good oak-work within, will make a house that a prince may live in," leads me to resume my remarks upon a new palace for her Majesty.

Few occasions have arisen in which so fine an opportunity has occurred of erecting a building which should do honour to our age and country, I would not so greatly care in what style the palace should be built provided that the design is produced in thorough harmony with the selected style, yet at the same time with a proper regard to the purposes for which the building is intended. Thus, if the Grecian style should be adopted, nothing would be more absurd than a fac-simile of the Parthenon, without the accessories of the Acropolis, the glorious mountains and sunny skies of Greece; if a Roman design is preferred, let us not be reminded of heathen gods and goddesses in the pediment of a Christian palace. If, on the other hand, a Gothic style of building should be chosen, let the fate of Fonthill and of other structures, whose costliness has only increased the contempt with which they are regarded, be a warning to shun the imitation of abbeys and ecclesiastical features utterly unsuitable to the purposes of a domestic building, in which fitness should be the first object.

A situation more delightful than Kensington Gardens for a palace cannot be found near London; the rare combination of wood and water, the magnificent foliage, the beautiful verdure, the commanding and isolated position, the extensive views around, make up a scene of truly English character, and whatever claims may be put forward in favour of classic styles of architecture, I still hold to the belief that some one of our own periods, not too far back, but either late Plantagenet or Tudor, will be best suited to the locality; but whatever the period chosen, the domestic and not the ecclesiastical features of the time should be introduced. Thus, how well would a Tudor building harmonize with the scenery, the "lustye hye pynacles" and towering chimneys, the expanded bay windows, and the rich oriels, "the turrets and the towers," composing a perfect picture set in the suitable framework of the "rooky wood."

Fine as the situation is, it will be utterly spoiled if the palace is made to resemble a fortress—a Windsor Castle in miniature—for machicolated towers, portcullises (except as badges), loop-holed embrasures, frowning battlements, and the stern accompaniments of a feudal castle, would be out of place in a spot where her Majesty would be surrounded by loving subjects, whose loyal and stout hearts would be her best defence. Again, disappointment will be a sure result, if, instead of an unfettered and manly adaptation of mediæval architecture, not servilely taking this "house" or that "place" for a model, we are to have a Grecianized Gothic edifice, having but few true features preserved, but in their place rejoicing in profuse panelling (which is like turning a house inside out), wearying the aching sight by its constant and monotonous repetition, sacrificing effect to richness, leaving no repose, no breadth—the voids and the solids being alike crowded with tracery, thus rendering the windows of secondary importance; and most likely such a design would be remarkable for the absence of that noblest of all Gothic features, the GABLE; the best, because the natural termination of a roof, yet so strangely lost sight of by some of our first architects; and the omission is never redeemed by the new and unlicensed introductions, of which neither the usefulness nor beauty is manifest.

It is to be hoped, however, that we shall have a palace designed in a truly English character, fitted for its truly English scene, and worthy of England and England's Queen, and one in which we may see, as delightful old Chaucer writes, who understood these matters well from his position,*

> "The chambris and parlers of a sorte,
> With bay wyndowes, goodlye as may be thoughte,
> As for daunsyng or otherwise disport."

and the gorgeous embellishments of heraldry and stained glass adding their charm to the

> "Wyde wyndowes ywrought
> Ywrythen full thikke,
> Shynen with shapen sheldes;"—
> *Piers Plowman.*

and all those delightful details and pleasing associations, which are found in the stately structures of the Tudor times, whose owners well knew to combine the useful with the beautiful:—

> "Building royally
> Their mansions curiously,
> With turretes and with towres,
> With halls and with bowres
> Stretching to the starres:
> With glass windowes and barres;
> Hanging about their walls
> Clothes of golde and palles,
> Arras of rich arraye,
> Freshe as flowres in Maye.—*Skelton.*

A structure, in short, such as those great builders, Cardinal Wolsey or Sir Reginald Bray, would have bequeathed to us, had they been commissioned to erect a palace on this site.

With the awful failures of the palaces at Kew, Brighton, and Pimlico, before our eyes, as works of art, it is to be hoped that an occasion of building a new palace will call forth the best energies of the architect to whom it may be confided, to whose keeping the character of his profession and the honour of his country as to the rank it holds in art, will be largely committed, and that he may, unshackled by committees of taste, be allowed to carry out what he knows to be true and beautiful, remembering that if he only endeavours to follow the fleeting taste of a day, however he may succeed in exciting the admiration of "some quantity of barren spectators," he will assuredly "make the judicious grieve;" and the profound remark of the Great Master applies to the architect as well as to the player, "the censure of which one must, in your allowance, o'erweigh a whole theatre of others."

I cannot better close this letter and my correspondence on the subject, than by a quotation which seems to apply with great propriety to the matter discussed; it is from Mr. Gwilt's admirable "Encyclopædia of Architecture." "It is almost unnecessary to observe, that the site on which a palace is to be built, must be open and free in every respect, that a large expanse of gardens should be attached to it for the use of the public as well as of the sovereign, in which respect the palaces of the Tuileries and Versailles are unparalleled. All should have a royal bearing, parsimony being inadmissible in works of this nature."

GEORGE RUSSELL FRENCH.
Sussex-gardens, Hyde-park, 26 Sept. 1846.

* He was clerk of the King's works at the Palace of Westminster, and at the royal manors of Kennington, Shene, Byfleet, Clapton, the Mews at Charing, and St. George's, Windsor.

ANOTHER VIEW OF THE SAME QUESTION.

SIR,—In THE BUILDER of the 29th of August last, you ask the following questions: "Is Buckingham Palace a worthy or even an endurable habitation for a Queen of England? and, Can it be made so?"

To the first of these questions I reply, that Buckingham Palace *is not* a worthy residence for the sovereign of this country: ever since its erection it has been a complete disgrace to the nation in an architectural point of view; for whether it be taken externally in the abstract, with its most unpicturesque outline, or internally, with its inconvenient arrangements and the puerility of its details, the same feeling of pity and contempt arises in the mind of the spectator on beholding this consummate abortion of the building art, which remains an inexhaustible source of ridicule to all well informed foreigners who visit our metropolis.

To your second question—"Can it be made a suitable residence?"—I distinctly and most emphatically reply no; I defy the most skilful architect ever to make it a structure worthy the required occasion, it being perfectly and totally past all redemption; and whatever sums might be spent upon it in the way of additions and "patch-work," would inevitably be a waste of the public funds, and be completely abortive.

A sarcastic writer in the *Examiner* has the following notice on this subject: "And after all, in writing about a well-constructed royal edifice, on a proper site, we have been but imagining *an impossibility;* for although there are sites enough for such a structure, *there is no architect*, and if the money for the purpose were voted, and the best ground for it chosen, the result would only be *some abomination, like an oil-cloth manufactory on a great scale!*"

Now, Mr. Editor, I think you will admit, that if the remarks of this hypercritical writer are correct, the science of architecture is at a miserably low ebb, when, in this enlightened age, it is gravely asserted, in a public journal of high standing in London, that there is no architect in our country possessing the powers of erecting a building beyond the appearance of an oil-cloth manufactory on a large scale. With all due deference, however, to the keen discrimination of the writer above adverted to, I differ with him in this sweeping condemnation of the architects of the present period; for, although we are compelled, however reluctantly, to admit that it is extremely difficult to point out an *Inigo Jones*, a *Wren*, or a *Vanbrugh*, yet it would not be difficult to prove that there are several architects who possess in an eminent degree those essential attributes of superior genius, sufficient to the designing and constructing a palace of suitable magnificence for the sovereign of this great nation, which would do honour to the age in which we live, should the opportunity be granted, and the necessary means afforded.

No doubt the most important part of the transaction is the selection of an architect for such an important undertaking, which should

be done *fairly and openly by honourable competition*, and not awarded to a single architect without opposition; for this corrupt system has been most lamentably illustrated in the instances perpetrated at the Pavilion at Brighton, and Buckingham Palace, which are utterly beneath all contempt; we, therefore, call upon the Commissioners of Woods and Forests, and others high in authority, to weigh well this important point, bearing in mind that the architectural honour of our nation is at stake in their decision;—let their choice of a plan, we urge, be determined agreeable to the arrangement adopted in the selection of the designs for the new Houses of Parliament, now tending to such a glorious and magnificent result.

Nor let it be supposed for a moment that I consider the architect of that structure *is superior* to all his compeers of the present day; there are others who possess equal powers, but which await only calling into action on a grand scale; therefore let the matter be settled by honourable competition, and the award given to one of those great artists whose design shall *be the best*, and not by an *individual selection beforehand*, which we venture to predict would end in universal dissatisfaction, leading to the erection of a structure unworthy of the purpose to which it is to be applied.

Another most important consideration as regards this subject, is the proper style in which the erection should be designed. A selection might be made from three; viz.—1st. The *decorated Greek of Leo von Klenze*;* 2nd, *The Palladian*; and 3rd, *The Tudor*;—rejecting the corruptions and puerilities of the Elizabethan, as totally unfit for works of a large and commanding nature.

No doubt, the Gothic enthusiasts of the day will exclaim against the style we have denominated *decorated Greek*, but let us humbly crave their pardon, and request them to throw aside their prejudices, and remember, that for purity of conception, breadth of parts, and refined elegance, this style is still pre-eminent; and in this respect superior to all others, stands out in the most conspicuous light, as is so gloriously illustrated in the magnificent structures of Klenze, erected at Munich under the genial influence of that great patron of art, the present king of Bavaria.

The same observations will equally apply to the Palladian manner, with all its luxuriant combinations, which always succeeds when entrusted to a great and comprehensive mind, that can seize its beauties only, and reject its imperfections,—and only fails under the influence of mediocrity, as was so lamentably illustrated by Nash in the structure which has called for the present remarks. We gaze on the works of Brunelleschi, of Buonarotti, of Wren, and of Vanbrugh, and confess that Palladian architecture has beauties and capabilities of no ordinary character, and moreover is *just as much adapted to our climate as the Gothic manner*, notwithstanding recent ravings.

Regarding the Tudor style, as applied to structures on a large scale, let it be borne in mind that it requires a peculiar mode of treatment to be rendered effective, and much judgment in the arrangement of its masses, so as to present an agreeable perspective, which its numerous vertical lines tend in no small degree to interrupt. In conclusion, Sir, you will, I trust, join the almost universal voice in the endeavour to prevent so consummate an abomination being committed as the proposed addition and patchwork at Buckingham Palace, and allow me again humbly to call upon those high in authority in the Government of the land, to have some regard for the architectural honour of the nation, and not to lend themselves to the perpetration of *a job* that will most inevitably continue us as the laughing stock of our continental neighbours; but endeavour to erect a royal palace on a site healthy and salubrious, and of magnificent and appropriate architecture, that will not only call forth the praise of the connoisseur, but also the undivided applause of the multitude.

I am, yours, &c.,
FRANK TYRRELL.

Newcastle-upon-Tyne, Sept. 1846.

* Leo von Klenze has erected some splendid public structures at Munich, in the designing of which he attempted what no other architect had the hardihood to do, viz., to decorate the pure Greek architecture, the germs of which are to be found on the Athenian acropolis. And in this daring attempt he has been transcendently successful. Such is the power of an original and well-directed mind, with the advantages of high and liberal patronage.

When Mr. Inwood designed St. Pancras Church, he copied as closely as possible the original Greek forms with scrupulous accuracy, and produced a work of great purity; on the contrary, Klenze soared into a wide field, embracing the regions of his own original conceptions and combinations, embellishing meagre forms, and even introducing the arch, which by the narrow-minded cavillers of the present age may be considered a perfect heresy, but in the hands of this great master becomes a positive and absolute beauty, to the peculiar style of which he may be said to have been the inventor.

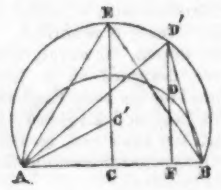
ON THE PROPOSED EXCHANGE OF GROUNDS.*

YOUR correspondent, "Uran Stuart," states, that the measures which he had given "arose out of the actual circumstances of a survey." How far they might *arise out* of a survey is one question: but I presume that your correspondent is too good a surveyor to adopt such a mode of taking notes. In fact, he has only framed those conditions from his survey, and his problem amounts to no more than an exercise in investigating areas subject to certain geometrical conditions. It is much to be desired, that when problems are so formed, their proposers would abandon the absurd attempt to render them interesting, by representing them as "arising out of actual practice"—a custom which is becoming much too general in our day.

Mathematically, these problems present but little difficulty. They have been over and over solved by pure geometry: but I send you the algebraic investigations from them leading, generally, to a more simple determination of the required value than is furnished by the constructive methods. The investigations are given in the general form, and then the given numbers inserted in the final formula.

(No. 1.)

Let AD′B be the triangle, and AB the base $=2a$ (=400); let the semicircle on AB cut the perpendicular D′F in D. Put AD′B$=\beta$ =61°), and FD′$=m$FD (=2 FD).



Then $CC' = a$ cot. AC′C $= a$ cot AEB$=$ a cot β; and the equations of the circles ADB, AD′B are respectively

$$x^2+y^2=a^2 \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$
$$x'^2+(y'-a\cot\beta)^2=a^2\,\mathrm{co}-\sec^2\beta \ldots \quad (2)$$

Now in the problem, we have

$$x'=x \text{ and } y'=my;$$

whence, substituting these in (1, 2) and subtracting, we obtain

$$y=\frac{2ma\ \cot\beta}{m^2-1};$$

and area=AC. FD′=AC. mFD

$$=\frac{2m^2a^2\ \cot\ \beta}{m^2-1} \ldots\ldots\ldots\ldots \quad (3)$$

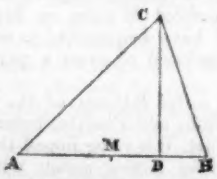
or in reference to the given numbers

$$\text{area}=\frac{2.\ 2^2\ 200^2.\ \cot\ 61^\circ}{3}.$$

$$=59126{\cdot}304 \text{ yards.}$$

(No. 2.)

Let ABC be the triangle; CD the perpendicular from the vertical angle to the base$=b$



(=360); M the middle of the base, and hence MD$=a$ ($=\frac{246}{2}=123$); and let AC$-$CB$=d$ (=120), and AM$=u$.

Then AC$=\sqrt{(u+a)^2+b^2}$,

and BC$=\sqrt{(u-a)^2+b^2}$.

But, by the question, we have

$$\text{AC}-\text{BC}=d$$
$$=\sqrt{(u+a)^2+b^2}-\sqrt{(u-a)^2+b^2}.$$

Resolving this question by the usual methods, we get

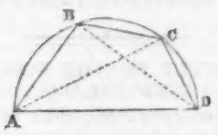
$$u=\frac{d}{2}\sqrt{\frac{4b^2-d^2}{4a^2-d^2}}.$$

$$\text{and area}=bu=\frac{bd}{2}\sqrt{\frac{4b^2-d^2}{4a^2-d^2}}$$

Substituting the given number in this, we find

$$\text{area}=68427{\cdot}007 \text{ yards.}$$

Let AB, BC, CD be the three given sides of the inscribed quadrilateral, taken (as, probably, the proposer meant them to be) contiguously, the fourth side being the diameter AD. Join AC, BD, and denote the several lines as follows:—



AB $= a$,	AC $= x$,
BC $= b$,	BD $= y$,
CD $= c$;	AD $= z$.

Then by right angled triangles and *Euc. vi. D.*, we have

$$x^2=z^2-c^2,$$
$$y^2=z^2-a^2,$$
$$xy=bz+ac.$$

Substitute the first and second in the square of the third equation; then after slight reduction there is found the cubic equation,

$$z^3-(a^2+b^2+c^2)\,z=2\,abc.$$

Any one of the roots would give a value of z, that would render AD a diameter; but in the case supposed above, it will be the greatest root that must be used.

Insert the given values of a, b, c, then

$$z^3-97341z=10512600.$$

The greatest root of this is readily found by the usual methods (*Horner's* method is far the best) to be

$$z=356{\cdot}195226.$$

Now, by the common rule for the area of the inscribed quadrilateral, if we put

$$a+b+c+z=2s,$$

we have the area represented by

$$\sqrt{(s-a)\ (s-b)\ (s-c)\ (s-z)};$$

or inserting the given numbers, and taking the approximate value 356·2 of z for simplifying the mere work, we have

$$\text{area}=\sqrt{222{\cdot}6\ .\ 303{\cdot}6\ .\ 273{\cdot}6\ .\ 87{\cdot}4};$$

which is easily computed by logs., and found to give

$$\text{area}=40201 \text{ yards.}$$

The sum of the three plots is 167754 yards very nearly. The side of the equivalent square plot is 409¼ yards nearly; and the gentleman has "caught a tartar" who adroitly offers something less than two-thirds of the quantity in exchange.

Sept. 17, 1846. PERPENDICULAR.

* See page 442, *ante*.

NEW WORKSHOPS, EASTERN COUNTIES RAILWAY.

BUILDERS' TENDERS.

THE following is a list of the tenders delivered on the 30th ult. for building workshops, &c., at the Eastern Counties Railway Station, Stratford. Mr. H. Hunt, architect:—

Croker	£82,300
Reddin and Coldersham	74,000
Crook	68,651
Grimsdell	67,991
Jackson	66,917
Baker and Son	66,785
Knight	64,800
Burton	62,981
Winsland and Holland	62,899
Kelk	62,800
Curtis	62,444
Piper	58,740

The lowest tender was accepted.

The difference between the highest and the lowest in this case is the more extraordinary, inasmuch as the quantities were supplied to all the builders. How is it to be explained.

FOREIGN ARCHITECTURAL AND COLLATERAL INTELLIGENCE.

Country-Embellishing.—"*Landes-Verschönerung.*"—On this word (idea), yet to be *introduced* into the English idiom—a German periodical puts forth the following graphic description:—"Country-embellishing may, after all, be considered as the very exponent of every other radius of national or governmental activity—as all of them must, by necessity, in fine, centre in, and abut to, something tangible, real, *material*. And where can such appear in any adequate magnitude—save in those, either extensive in themselves, or becoming so by their aggregate works, which, like huge buildings or other structures, strike and enchant the eyes of the beholder—or like roads, and canals, and dikes, extend in the shape of bands over the expanse of the land; both shewing, in contradistinction to the land of the savage, that *here* activity, mind, minds-life, are existing, and diffusing their salutary and benign influence. Thus, there is no great name in history, either monarch or statesman, whose mind did not, as well by *necessity*, manifest itself in such out-works of the mind, as we *may* call them; in each of which, however, pulsate great purposes, great views, great benevolence for the mass of the nation. Thus were Solomon, Semiramis, Numa, Pericles, Augustus, Charlemagne, Peter the Great, Napoleon. Shew me a great *constructor*, and behold a great man! (*Isis of Oken.*)

Vienna, Austria.—The Industrial Society of that city (*Gewerbsverei*), have, of late, carried out a plan, which deserves commendation and *imitation*. We allude to an exhibition, and prize-rewarding for *industrial drawings*—agricultural and horticultural implements and machines, furniture and other house utensils and decorations, patterns and designs of fictile and textile art; china, stoneware, pottery, and all sorts of tissues; in fine, choice and rare tools and implements of every trade and industry. [Our exhibition of national industry seems long in coming.]

Impure Gas.—The Cities of "Futurity."—Several of the French periodicals have of late alluded to the insalubrity which manifests itself in the narrow streets of Paris, Rue St. Honoré, Rue de la Harpe, &c., on account of the exhalation of the gas, which penetrates the dwellings, especially on the ground-floor and first story. If the occupants of such rooms are a day out of town, and the door and windows shut, the smell on entering them is terrible and nearly suffocating—which, as a matter of course, *must* be also the case every night, although to a smaller degree. It is obvious, that if only pure (or nearly so) hydrogen gas were to be burnt, this could hardly be the case; and it is the admixture of sulphuretted or carburetted hydrogen gas which, not being consumed, causes this distress, because such it is to all intents and purposes. Aside the necessity of pure gas—the necessity also of widening our present gas streets is alluded to, which, eventually, will lead to the American right-angle *block* system of town construction.

Prague, Austria.—Dr. Obst, lord of the manor of Ober-Leitensberg, has induced his peasantry (they have mostly perpetual leases) to a very fine and useful undertaking. They have made a compact amongst themselves, to rebuild the whole village after a new and well-concerted plan; the rebuilding of the houses to be done within certain periods of time—the lot to decide priority. But still more important is, that the peasantry have bound themselves, *all of them*, to assist (in labour of men and cattle, &c.) in the building of these single cottages, which are to be all one story high. The lord of the manor furnishes them with the necessary timber, free of expense. This, then, will be a model-village indeed. Dr. Obst has also established a small library of books and periodicals for his peasantry, play and athletic grounds for the youth, &c.

The supposed Fresco Painting by Raffaelle at Pisa.—Mr. Gargani Garganetti, of Florence, has just published a little work, by which he proves to evidence, that that mural painting, discovered last year in the convent of St. Onofrio, at Pisa, representing the Last Supper, is the work of Neri de Bicci, made in 1461, and consequently many years before Raffaelle was born. It precedes even the Perugino school, and Bicci may be considered the last of the great Giotto galaxy. Vasari does not mention him but passingly. Mr. G. has discovered in the Strozian library the order of the monastic authorities for this picture, dated 20th March, 1461, and the artist's receipt for his *wages*, dated 4th Aug. 1462; both which documents are printed in the above little work.

J. L.

PROVINCIAL NEWS.

The boring at the Artesian well, Southampton Common, is to be proceeded with, it is said, on the recommendation of those members of the British Association who took an interest in the subject. Little further expense will be added to the 20,000*l.* already expended, and little further time will accomplish the end in view, so far, at least, as regards the proper depth of boring; as the new and expeditious method of operation spoken of in last week's Builder, is to be henceforth adopted.——The great expense, and the no less great inferiority of the gas with which Southampton is supplied, has led to a determination that new and extensive gas works shall be erected for the supply of a superior article at something like the price fixed in the North of England, namely 4s. per 1,000 cubic feet, instead of 10s. to 12s. as at present for the supply of so inferior an article.——The traffic between Portsmouth and Gosport was interrupted on Sunday week by the snapping of one of the chains of the floating-bridge while it was in the centre of the passage.——The erection of the new market house at Dorchester is to be speedily commenced. Premises adjoining the Town Hall have been taken down, and it is intended to carry out the original proposition of rebuilding the Guildhall, with a spacious room attached for a Corn Exchange and public exhibitions. In addition, also, to the public cemetery alluded to in our last impression, and other sanatory improvements, a water company on the plan of the gas company is suggested.——The contemplated restorations in St. James's church, Bristol, lately noticed by us in The Builder, have so pleased a respectable dissenter, that he has volunteered to supply the glass at his own expense. The name of so liberal and patriotic a dissenter ought to be recorded.——The plan of Mr. Wilson, the Architect of Bath, for the proposed Wesleyan College there, has been approved of, and a site selected near the Lansdown-road above St. Stephen's church.——Land for the site and 100*l.*, in aid of the erection of the national schools at Stratton, Cornwall, have been given by Lord Cateret.——The Worcester nailers are endeavouring to obtain an advance of 10 per cent. on their wages.——The new church of St. Andrew, Bordesley, which was to be consecrated on Wednesday last, consists of a chancel 38 feet, a nave, 86 feet, a north aisle, and a tower of three stages with a spire at its west end. The style is middle pointed. Of the sittings, about 1,000 in number, more than one-half are free.——Oundle church is to be restored at a cost of 3,000*l.*, of which 1,782*l.* have been already subscribed.——Benefield Church, near Oundle has recently been extensively altered, at least, if not restored.——St. Paul's Church, Bedford, too, appears, from the sad account of it given by a correspondent of the *Northampton Mercury*, to have passed of late into just such "sacrilegious hands" as those whose ignorant and barbarous doings of an older date are now being everywhere else *undone* by judicious restorers of our old and venerable churches. "We know not to whose hands the care of this church is entrusted," says our present authority, "but if to those who called in the aid of Mr. Blore to render their school-building honourable to their town, and the memory of its benefactor, we trust they will again invoke his, or similar aid, to restore this noble church to its ancient magnificence."——The Cambridge commissioners of paving, &c., have at last agreed to disburse the trifle necessary to repair the bridge at St. John's College, the dilapidated state of which, as we lately remarked, was so disgraceful to the authorities both of college and of city.——At a recent meeting of the paving commissioners, Mr. Walter, the architect, produced his plan, and that of Mr. Morris, the architect, for the proposed arcade at Blackbear-yard, from which it appears that the plan adopted was the best available in so close and confined a locality, and was so adopted precisely because the passage in that plan was an open one, conducive as far as possible to the public health. The locality being one radically ineligible for such a purpose, however, a committee was appointed to confer with the trustees of Storey's charity on the subject.——A somewhat "curious and interesting" scene occurred the other day, in presence of the mayor and other commissioners, on the reading of a report on the state of certain paving contracted for by a Mr. Brady, whom the commissioners appeared to be desirous to get rid of, "as it was quite clear he could not perform it;" while Mr. Brady, for his part, appeared to be equally desirous to get rid of the commissioners, "because they had not paid him till the fifteenth day, instead of fourteen days after he had first taken the contract."——"The Norman Tower, at Bury St. Edmund's," says a contemporary, "has now undergone the *experimentum crucis*. The great eastern arch is removed, and the centre of that front is supported by shores until the arch can be replaced. It will give some idea of the magnitude of this undertaking if we state the preparations made for the security of the structure. A bed of concrete and brickwork, a yard and a half thick, was first laid down, upon which four upright timbers, 27 feet long and 14 inches square, were raised, to catch the ends of two 'needles,' or horizontal timbers, 11 feet in length and 2 feet thick, bound together with iron and let into the sides of the centre pier between the first-floor windows. On Tuesday, last, the jambs and pillars to support the new arch being completed, the hideous breach was effected, and the shattered state of the ashlar and core fully bore out the statements as to the peril in which this part of the edifice had stood until the precaution was taken of inserting the temporary centre. A chasm is now presented, about 15 feet wide, and the same height from the spring of the arch, in which the massive structure, 80 feet high and nearly 6 feet in thickness, has no other perpendicular support than the shores above mentioned; but the sound union effected in all the fissured parts above, and the immense power of the iron ties by which the tower is bound together at four stages, probably rendered the buttresses at the angles sufficient to hold up the centre without the additional precautions which have been prudently taken. The insertion of the new arch will be commenced immediately, and proceeded with as expeditiously as consists with the solidity of the work. The process excites much interest, even amongst the commonest observers, and the surprise is very great at the restoration having been thus carried on from the top downwards, nothing of the masonry remaining to be done above, but the addition of the coping to the parapet between the turrets."

PREVENTION OF EPIDEMIC AND CONTAGIOUS DISEASES.

Lord Morpeth's Act to this effect is about to be put into prompt operation in the parish of Tottenham. A meeting of the inhabitants has been held, and a committee is appointed to take into consideration, the provisions of the Act of Parliament "for the Removal of Nuisances, and the Prevention of Contagious and Epidemic Diseases," and to receive the suggestions of the parochial authorities as to the best mode of carrying the same into effect, for the benefit of the parish at large.

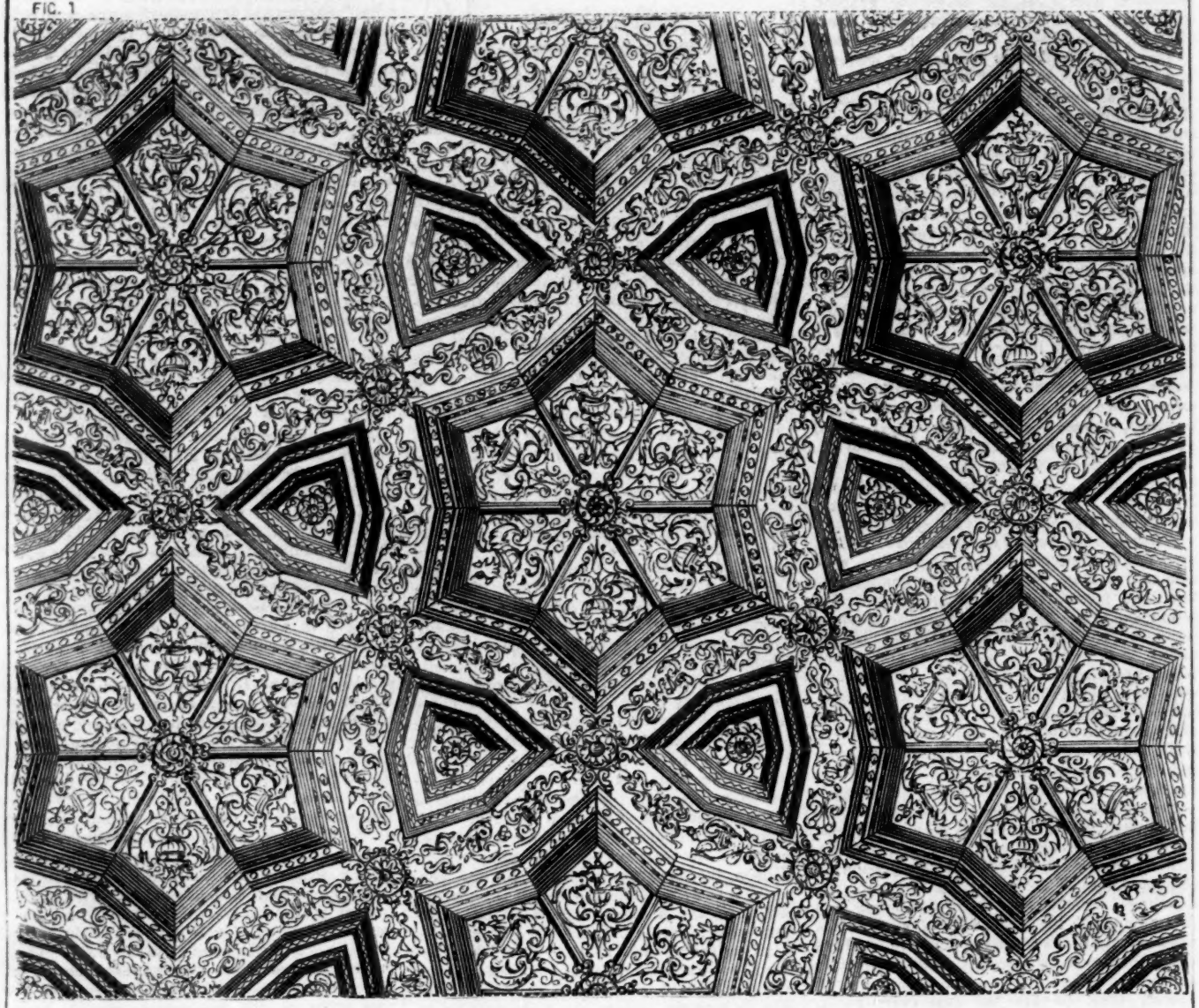
They will meet at stated periods to receive information "of the filthy and unwholesome condition of any dwelling-house or other building, or of the accumulation of any offensive or noxious matter, refuse, dung, or offal, or of the existence of any foul or offensive drain, privy, or cesspool" in the parish, in order that the committee may view the same, and take measures "for cleansing, whitewashing, or purifying of any such dwelling-house or other building, or for the removal or abatement of such nuisances" as shall be certified to be such by competent authority, as in such Act is mentioned.

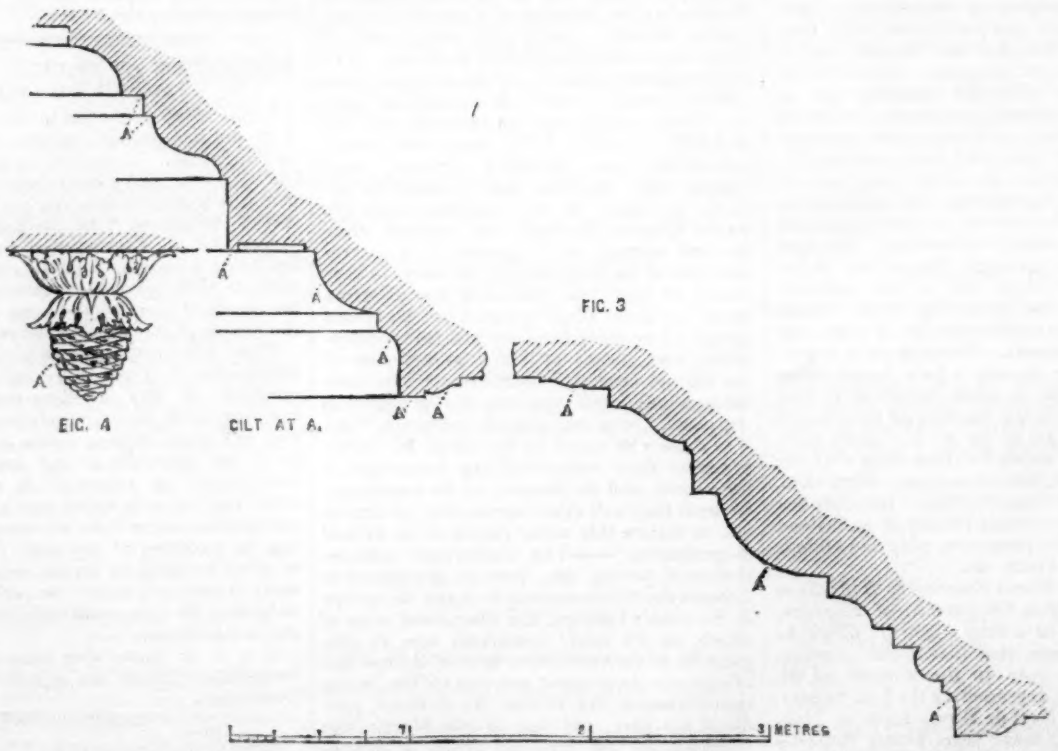
It is to be hoped that other parishes will immediately follow the example thus set in Tottenham.

Re-paving Cheapside.—On Saturday last, orders were issued from the office of the Commissioners of Sewers for the re-paving of Cheapside with stone instead of wood.

CEILING.—PALAIS DE JUSTICE, AT ROUEN.

FIG. 1

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CEILING.—PALAIS DE JUSTICE, AT ROUEN.

CEILING OF THE SALLE DES ASSISES,
IN THE PALAIS DE JUSTICE, AT ROUEN.

For the sketches from which the drawings engraved for our pages were made, we are indebted to Mr. A. Poynter, who kindly lent them for the purpose, and favoured us with the following particulars:—

"The Salle des Assises in the Palais de Justice, at Rouen, is in

Length.. 25·85 metres:	about 84 ft. 6½ in.	English.
Breadth.. 13·35	,,	,,	43 ft. 8 in.	,,
Height .. 6·60	,,	,,	21 ft. 7 in.	,,

The ceiling of this hall, carved in wood and gilt, contains thirty principal panels of a stellar form.

Each stile dividing the compartment of the star is mortised at *a*, fig. 1. From these points originally started very long pendants, richly ornamented and gilt, but they were removed about forty years since, and not the slightest remains could be found of them, although diligent search was made, as long ago as the time when the late Mr. Pugin was preparing his work on the architectural antiquities of Normandy.

In the present condition of this elaborate ceiling, the effect of the projection of the large panels from the general face is disagreeable, and produces an air of great heaviness. It must, however, be borne in mind with reference to this peculiarity of composition, that the protruding moulding formed the springing of the pendants. But the low proportion of the room must always have been a defect, even more apparent when the parts were unmutilated, and approached nearer to the eye."

The late Mr. Pugin, in his volume referred to, mentions that the room now used as the Salle des Assises, was the one in which the parliament, or the three estates, constituting the Duchy of Normandy, viz., the deputies of the church, the nobility, and the good towns, held their meetings. He describes the ceiling as being of oak, nearly as black as ebony, covered with a profusion of carving and gilt ornaments.

With regard to the long pendants, said to have been attached to the great panels, and which have been removed probably fifty years; and to the bad effect of them pointed out by Mr. Poynter, it may be suggested that a small open scroll ornament might have been attached to each style of the panel, and that they never had long pendants; examples of the former can be pointed out in ceilings of about the same date in this country, and the effect is extremely rich.

This ceiling is ascribed to the commencement of the 16th century.

Fig. 1.—Plan of a compartment of the ceiling.
Fig. 2.—Portions of the two panels at large.
Fig. 3.—Section of mouldings of the two panels to a larger scale.
Fig. 4.—Pendant ornament in centre of small panels.

BELGIAN ART AND BELGIAN GOVERNMENT.

It was only last year that H. M. King Leopold, introduced *art* even in his speech from the throne, in the following words:—"The exhibition of fine arts has preserved the Belgian school in that degree of consideration, which has been assigned to it by the admiration of the nation, and the justice of our neighbours." Thus art had been made (perhaps for the first time) a national affair, one worthy to be accounted for to the representatives of the realm. In the same way the annual exhibition of fine arts is styled,—"Exposition *nationale* des beaux arts," and the offices of the Secretary of State for the Home Department, at Brussels, contain, in the first story, the Section of national industry, in the third that of public instruction—between both appears the inscription, *Beaux arts*. Thus the Belgian Government protect art as a valuable *common-good* of the nation; public buildings are numerous and splendid, and adorned with sculpture and paintings. The king encourages the *national* element in every way, and a great number of art academies and schools of design are scattered over the land. With him vie the corporations of cities, and the clerical authorities. The former contribute large sums, from their communial revenues, towards the establishment of art schools, and purchase art-works for their town-halls; the clergy strive hard to obliterate those ravages and spoliations, which the madness of the first Reformation had committed. Very numerous are, moreover, private collections, and have become a nearly necessary appurtenance of every competent family residence. Each large city has yearly exhibitions, and other societies of encouragement, which exhibit every six months; but the chief is the yearly *national exhibition*, which is held alternately in Brussels, Ghent, and Antwerp.

The State's encouragements for artists are numerous, as the granting of the order of Leopold, and the many gold and silver medals awarded at each exhibition. The concourses at the two larger academies award *travelling pensions* to deserving pupils. Belgium has now *forty-three* schools and academies for painting, design, and architecture!—the number of students being between 6 and 7,000—an astonishing proportion for a population of only four millions. This ought to suffice to disprove the belief, that *industrial tendencies* will encroach on the higher mind of the people, or destroy the sense for the *beautiful*. It is now for the third time in modern history, that Belgium has shone forth as a pattern and beacon of art. Thus, in 1430, Johann von Eyck stood at the head of European art; in 1630, Rubens; and it was again in 1830, that a seasonable political revolution brought on another regeneration of Belgian art.

COMPO *versus* STONE.
ST. JAMES'S CHURCH, BRISTOL.

Sir,—You will be pleased to hear that your notice of the restoration of St. James's Church has excited attention in the local papers, also in the committee.

I trust you will allow me to say a few words, as the architect responsible for the safety of the building and for the amount of expenditure to be laid out. The columns are, I believe, safe if untouched; but they are built of rubble, and cased with freestone. The rubble is decayed, and the freestone is much hacked, and any attempt to piece the columns will occasion necessity for their entire reconstruction. They are five or six inches out of perpendicular, one or two ways, as also the

arches above, and the clerestory walls are in few places less than eighteen inches out of a vertical line, and not six feet in the same direction. The foundations appear to have failed originally; but the walls have been further pressed outwards by the arched (perpendicular) roof.

The whole of the walls of nave, west end, and aisles are rotten when opened, and they stand by their mass only, or with the assistance of old houses built up against them; under such circumstances, I advise the committee not to touch column, arch, or wall, unless they are prepared to rebuild the church *de novo*.

The restoration of the surface of the columns and capitals is, I believe, the only mode of dealing with them under existing circumstances. The stucco is very thin, and not intended to give apparent uprightness to the columns, because the winding of the arches would appear much more unsightly than at present; and if the columns and arches were rebuilt perpendicularly, the walls would scarcely stand upon them.

The amount proposed to be expended in rebuilding an east wall, putting up a new roof to the aisle, new flooring and seating the whole of the church, and the removal of north and south galleries, is not to exceed 1,000*l.*—the area of the floor being more than 5,000 feet. Restoration of the church, or, more properly speaking, rebuilding, is manifestly out of the question with such a purse.

The west end is really a valuable specimen of Norman work, and it was doubtless a fine church of its style in its original state; but the curtailment of half its length, and the addition of a large late perpendicular south aisle, leave an interior to be treated as a picturesque subject, rather than a model for imitation. Much of the picturesque effect is produced by the wood roof, with the principals winding a yard or so eastward or westward, which would not be considered handywork if executed by a tradesman now. I have been led to make this observation, and I trust you will excuse its being a little by the way, because I have heard so many well-meaning persons bestow extravagant approbation upon old forms and workmanship, which they would as cordially condemn under an impression that the same were modern.

The restoration of forms existing in the columns, capitals, &c., appears to be all that is necessary as a matter of art or archæology. In case of rebuilding the church, I presume the architect who attempted to blend the forms of differing styles, and incongruities in the same style now seen, would be most unmercifully condemned; whether justly or unjustly, let the most ardent restorer of the existing church determine. The question now is, whether the columns, capitals, and arches, are to be made good to the eye (for it will be almost impossible to distinguish between the stone and the stucco), at a moderate cost, or whether for the purpose of restoring them substantially, the church shall be taken down. It is likely that the church may stand a hundred years with moderate care, and for that period, a plaster restoration seems to answer the purpose as well as stone. Any attempt at opening the exterior of the church to view, will bring it down, so that if parties are found willing to undertake the whole restoration in a proper way, rebuilding is the only course open, and in default of present means, it appears better to leave expensive restoration for the time when entire reconstruction will be unavoidable.—I am, Sir, &c., SAML. C. FRIPP.

Bristol, Sept. 26, 1846.

INSTRUCTION TO STUDENTS AT ROYAL INSTITUTE OF ARCHITECTS.

SIR,—Would it lessen the dignity of the Royal Institute of British Architects, to promote the study of their art in the manner indicated by your correspondent of last week, as to a school of design?—I venture to think not; so address you in continuation of those remarks, the result of which would doubtless, benefit the students of that art, and, consequently, be not unwelcome to its admirers.

The Institute has a good library, which is open only three evenings in the week, when the average number of visitors is between *one and two;* the large lecture room is used only two nights per month. They have also a small museum. Is there not then a quantity of available room wasted, and could not a professor be appointed here, with greater facility than where all these expensive requisites have to be procured?

The small number of students (about fourteen) pleads for an improvement of some kind in their department.—I am, Sir, &c.,

JUVENIS.

RAILWAY JOTTINGS.

THE tenders for erecting stations at Needham-market and Thurston, on the line of the Ipswich and Bury Railway, were on Tuesday week examined, and adjudged by the directors. For the erection of the Needham-market station there were three tenders: Mr. Baldiston for 3,560*l.*; Mr. Ribbans, 3,400*l.*; Mr. Revett, 3,150*l.* For Thurston: Mr. Trevethan, 3,810*l.*; and Mr. Reed, 3,753*l.* In each case the lowest tender was accepted. The stations have been commenced, and it is expected the platforms will be covered by the end of October, at which time, it is thought, the line will be ready for opening. The tunnel under Stoke Hill was completed on Saturday week, when the contractors invited about 100 of the directors and their friends to "a handsome dinner in the tunnel." The difficulty at Stowmarket "appears to be quite overcome by the use of a quantity of hurdles, faggots, &c.; and there is little doubt of the whole of that part being finished in a fortnight." The arch over the road at the Northgate, Bury, is completed. "The centering of the arch," says the *Bury Post*, "constructed, as it is, to offer no impediment to the traffic on the road below during the whole period of the erection of the bridge, has been admired by architects and builders of eminence as superior to any thing they have ever seen."——There are upwards of 3,000 labourers, it appears, engaged at work between Peterborough and Ely.——On the Berks and Hants branch of the Great Western, the arch recently erected by the contractor over the Oxford-road, near Reading, fell, on Friday, last week, with a heavy crash, into a heap of ruins. The woodwork centre, upon which the bridge was built, was eased about some days before, and though followed by a slight sinking, no apprehension of a fall was entertained, and accordingly on Thursday the entire frame-work was removed, and no indication of instability could be observed until the crash occurred. Extreme haste in construction and mixture of cement are alleged to have been the causes of the mishap.——The tunnel from Edge Hill to the North Docks, at Liverpool, has been contracted for by Mr. McCormick, as the successful competitor, at 40*l.* per yard, or about 90,000*l.* in all. There is to be a goods station in Hodson-street at the back of Byrom-street, which will be the only opening.——On Wednesday week, the Ashton, Stalybridge, and Liverpool Junction line, was privately opened through to Stalybridge, on which occasion Major Pasley, accompanied by Messrs. Brun, Lees, Watts, and Jenkins, engineers, attended to inspect the line. The first part of the contract, at the Manchester end, has been executed by Messrs. Hemmingway and Pearson, and the remainder part by Messrs. Harding and Cropper, who have had about five out of the six miles and a half of the work. The latter gentlemen commenced on their contract about the 8th of April, 1845, and have, therefore, notwithstanding many difficulties, completed the work in something under 18 months. There are 20 bridges upon it, from Manchester to Stalybridge, exclusive of the ten-arch viaduct, which crosses the river Medlock. A great portion of the line runs across the Ashton moss, and the other part is through heavy cuttings of marl and loam. The Ashton station is a large commodious stone building. The roof across the railway is 60 feet span and 150 feet long. Several large warehouses are in course of being built at Ashton, and in those erected there are already no less than 3,000 bags of cotton belonging to the millowners in the town. The terminus at Stalybridge adjoins that of the Ashton branch of the Sheffield railway, being merely divided by a wall. The line will be opened to the public on 5th October.——From two official documents lately published in France and Belgium, it appears that notwithstanding the gifts of land and other advantages conferred by the government of these countries on the companies which obtain the "concession," the expenses of constructing their lines are not, on the whole, less than those at which railways are now constructed in this country. Though, some years ago, the average cost of constructing English railways was about 30,000*l.* per mile, the average estimates of those lines which obtained their bills last session will not exceed 18,000*l.* per mile, which is as near as may be the average cost of construction in the case of continental railways generally. The French and Belgian lines are mainly worked under the direction and control of the governments of these countries, which may account for the fact—though, in many instances, the lines are only single, and the trains not half so numerous as in England. The average expense of working them is 48½ per cent. on the total receipts; while in this country, the average cost of working does not exceed 33 per cent. It is a curious fact, in the case of continental lines, that the shortest railways pay the best. It is the reverse in England. Out of every 1,000,000*l.* of capital invested in French and Belgian lines, it is calculated that shares to the extent of 600,000*l.* are held by Englishmen.——The villagers of a little town near Montreuil have refused to allow the works of the railway near that town to proceed, as it will run through their public cemetery.

With reference to the scales of charges for telegraphic messages on the South Eastern line presented in our last impression, a correspondent of the *Mining Journal* with truth, observes, that "the directors, with that grasping and mercenary feeling which has characterised their proceedings of late, more especially in a large increase in their fares, have set prices upon these telegraphic messages which will entirely prevent its use; and thus by their covetousness, defeat their own purposes and interests." Who, he asks, would pay such prices for a few words conveyance, when he can not only send a sheet of foolscap fully written by post for a penny, but actually convey himself along the line itself to a *vis-a-vis* communication with his correspondents, and return as he went, all for the amount charged for the mere transmission of a message of a few words. The charges on the continental line of railway, noted also in our last week's paper, certainly present a marked contrast to these;—a message of 20 words for 50 cents., or about 5d., instead of 5s., the minimum charge in both cases! The rapacity which thus overreaches even one's own self-interest, is by no means so glaring on others of our own British lines; as for instance, on the South-Western, where messages are sent the entire length of the line, 88 miles for 3s. if 26 words, and 1s. 6d. for every additional 20 words, up to 100, when the charge for every 20 words is further restricted to 1s. On the Eastern Counties even, the charges are still lower in proportion, as appears from the following particulars, presented on the authority of a correspondent of the *Chelmsford Chronicle*:— From London to Broxbourne, 19 miles, and all intermediate stations, 2s.; to Cambridge, 57 miles, and all the stations between Broxbourne and Cambridge, 3s. 6d.; to Brandon, 88 miles, and all stations between Cambridge and Brandon, 5s.; and to Yarmouth, 146 miles, 7s. 6d. From Broxbourne to Cambridge, and all the intermediate stations, 2s.; to Brandon, and all stations between Cambridge and Brandon, 3s. 6d. From Cambridge to Brandon, and all intermediate stations, 2s. If the message and answer exceeds 40 words, an additional charge of 1s. is made for every succeeding 10 words.

LIGHTING AND HEATING BY CARBONIC OXIDE.—A patent has been taken out, by MR. J. Constable, of London, for a method of preparing carbonic oxide gas from anthracite, in blast furnaces, by aid of heated steam and air; passing it, for illumination, through oil of turpentine, to increase its brilliancy; and for heating purposes, mixing it with air supplied by gasometer to the burner. Materials valuable as manure are obtained from the ashes,—cyanide of potassium by washings, and ammoniacal products by aid of steam; the scarcity and high price of guano thus, as in Dr. Playfairs researches, and in the scheme for condensing sewage, leading to a fair prospect of a cheap supply of artificial equivalents.

WELLINGTON ON THE ARCH.

On Tuesday the colossal group was safely conveyed by twenty-nine of Mr. Goding's horses, amid drums, trumpets, and the shouts of a vast multitude of persons, from Mr. Wyatt's studio to the *locus in quo*, and on Wednesday it was safely hoisted on to the arch. It was raised by means of strong six-inch cables fastened round each thigh of the horse, which were then hooked on to the blocks used in the ascent. Through these blocks, four in number, triple sheaved and expressly made for this occasion, ran six ropes, also quite new and made of the strongest yarn, each rope being calculated equal to ten tons. Upon the traversing platform above, were four "crabs," or powerful windlasses, worked by eight men each. The scaffolding, erected for the purpose by Mr. W. Ellis, under the direction of Mr. Wyatt, was of itself a wonderful work, being 115 feet in height, and having taken, we are told, upwards of 200 loads of timber in its construction, besides scaffold poles and planks. The height to which it was necessary to raise the statue was 74 feet, and thence it had to traverse a distance of 60 feet to arrive at the pedestal prepared for its reception upon the crown of the arch. The arrangements were all admirable, and entitle those who were concerned to great praise.

We have now to wait the opinion of the "competent persons" to be chosen by Government, being nevertheless more strong than ever in our own.

THE NEW MUSIC HALL AT LIVERPOOL.

The foundation-stone of the Philharmonic Society's new concert hall, at the corner of Hope-street and Myrtle-street, Liverpool, was laid on Wednesday week. It will be a very spacious and commodious building. The design is by Mr. J. Cunningham. The cost will be 23,000*l.*, and the accommodation for 2,300 persons. The following particulars are from *Gore's Advertiser*:—

"The hall will have two fronts, one towards Hope-street, the other towards Myrtle-street. In accordance with its character, the style of architecture adopted is Italian. The length of the building will be upwards of 175 feet, its breadth 112 feet, and its elevation, externally, 65 feet. It was originally intended to surmount it with a dome; but, owing to the increased expense which this must have occasioned, as well as the unnecessary flood of light which it would have thrown in, the idea has been abandoned. The erection will be entirely of stone, the two fronts being of white stone, the back and side of red stone, finished with white.

The main feature of the plan is the provision made to prevent over-crowding, and afford easy ingress and egress. This is accomplished in several ways. On each front there is an open arcade, with bold pilasters rising to the height of the first story, the intermediate spaces being arched, having impost piers, impost mouldings, &c. There are five arches to the Hope-street front, and eight to the front towards Myrtle-street. A corridor extends round three sides of the pit, there being on each side three doors from the arcade, and from the corridor into the pit no less than eight. The flanks of each front in a small measure recede. A cornice and string course run above the first story and below the upper windows, the interstice being filled up with panels. The upper windows have architraves, friezes, and pedimented carved cornices and mould cappings. The whole of the exterior of the building is surmounted by a richly-sculptured block cornice, ornamented with rosettes, &c.; and on the central breaks of each front the usual and appropriate musical emblems will be cut.

The whole of the interior will be painted in encaustic, with appropriate emblematic ornaments, in a style, we believe, similar to the Italian Opera House, in London. The interior of all the rooms is lofty, and provision will be made to secure due ventilation and heating. The entrances into the pit will be merely covered with curtains. The place will be lighted on a new plan. Above the cornices surrounding the pit Mr. Cunningham proposes to introduce pipes terminating as acroteriæ in the form of honeysuckles, which by a simple contrivance may be made to light the whole of the interior, without the offensive glare caused by the chandeliers and the common modes. In the arrangement of the building materials, it is said every attention will be paid to true acoustic principles." We shall see.

CHURCH BUILDING IN LYNN.

On the 24th ult., a new church in Lynn (St. John's) was consecrated by the Bishop of Norwich. A correspondent has forwarded the following particulars:—

The style is early English or lancet, of a very plain character, and its general appearance massive. The west front is in three divisions; horizontally, with quadrilateral staircase and bell turrets at the angles. In the lower division is a well-proportioned doorway, with oak doors and wrought-iron furniture; the second division has an arcade of five arches, two of which are for windows; the third division includes a lofty gable pierced with a small lancet window for the roof. The south elevation presents a row of five circular windows with trefoil lights in the clerestory. The south aisle receives light from five lancet windows, one of which is at the west end; and the walls are supported by six massive buttresses of good proportion. The south door is between the second and third buttresses. The north elevation differs from the south, having a porch with high pitched gable, an oaken door with wrought-iron hinges, handles, &c. There is also a door of entrance to the vestry on the north side. In the east elevation the nave gable, surmounted by a cross, rises above the gable of the chancel, which has also a cross; there are in all three stone crosses placed on the gables, and two of gilded metal, on the pinnacles of the west turrets. The nave, aisles, and chancel are covered with scalloped tiles. The interior has good solid stone piers and oak open seats. The following are its dimensions within the walls:—Nave, 73 feet 3 inches, by 55 feet 9 inches; chancel, 39 feet 9 inches, by 25 feet 6 inches; transepts, 15 feet by 15 feet; height of nave from floor to ridge of roof, 56 feet; ditto of chancel ditto, 42 feet; height of clerestory walls, 33 feet 6 inches; ditto of aisles wall, 17 feet; ditto of chancel ditto, 20 feet. The roof of the nave and clerestory are supported on five arches springing from six columns, two of which are engaged.

We have spoken of transepts, but these properly speaking are chapels terminating the aisles, and open to the chancel on the north and south sides—lit with double lancet windows. The roofs of the nave and chancel are supported on corbel heads carved in stone. A vestry, measuring 12 feet 6 inches, by 11 feet 9 inches, is on the north side of the chancel. The altar table, reading desk, and pulpit are of oak, plain in character, but appropriate. The triple lancet window at the east end of the chancel is filled with painted glass, by Mr. Wailes; the devices, which are on medallions, exhibit the crucifixion, our Lord after his resurrection, the hand stretched out as in the act of benediction; the ascension, and on four others the emblems of the evangelists.

The church affords accommodation for 1,000 persons; the cost will be about 5,000*l.*; Mr. Salvin is the architect; Messrs. Bennett and Son, of Whittlesea, the builders.

On the preceding day, the church of Tilney, St. Lawrence, in the same diocese, which has been completely restored, was consecrated. The tower was the only part of the ancient structure which did not need thorough restoration; to this a spire has been added. More than 2,000*l.* have been spent in the rebuilding, the whole of which was contributed by Mrs. Mann, of Lynn.

St. Margaret's, the mother church, is also in course of restoration.

The Fine Arts in the New Houses of Parliament.—The commissioners have published their sixth report, wherein they express their approval of Mr. Dyce's fresco, and recommend that the other artists to be employed, adapt the size of their figures, the style of colouring, and the finish of their work, to agree with it.

Correspondence.

GREEN MARBLE OF IRELAND.

Sir,—Having lately read that the recommendation of his Royal Highness Prince Albert to the Society of Arts, in respect of the marbles of Ireland, had not fallen to the ground, I beg to give a little information on the green marbles of that country. In the year 1839 or 1840, a quantity was imported from the estate of Mr. Martin, and was laid on Mr. Freeman's Wharf, Millbank, for safety, where it remained until it had nearly "eaten itself up." At that time the Wyndham Club were desirous of having two chimney-pieces placed in one of their principal apartments in St. James's-square, upon which Mr. Martin presented them with as much green marble as would make them, according to a design by Mr. Bardwell; and to my father was confided the execution. I can bear testimony to the great beauty of the marble, carrying as it does every shade of green intermixed with seams of white, delicately tinged with green and pinkish brown. Yet it never gained much favour, chiefly from not being carefully selected; it appears to have been shipped just as it came to hand, therefore much of it was worthless, having no beauty in colour, and refusing to take any polish.

It is to be hoped that if any is again imported, it will be properly selected, so as to give it a fair chance. I shall be happy to shew any person specimens of the marble used for the Wyndham Club.—I am, Sir, &c.,

C. S. Kelsey.

Commercial-road, Lambeth, Sept. 23.

IMPROVED TRAP FOR HOUSE DRAINS.

Sir,—I am exceedingly glad to see that the hint I suggested, under the signature Z. Z., is likely to produce some little benefit; and although I did not enter into the detail of the stench-trap, I find it was then fully described, and the cut shewn in your last number in every respect tallies with that description. I should not have ventured to write to you again upon the subject, had any acknowledgment been made by Mr. Phillips as to whence it appears he derived the idea for the "improved trap for house-drains." I would now only add, that the *trap* should be in one piece, and that there should be no joint below the water line; and I think you will at once see the objection to the position of the present joint, as any slight settlement of the work would easily disrupture it, and of course the efficacy of the trap would be immediately destroyed, even should only a small portion of the water escape.

I am, Sir, &c. E. B. Lamb.

26, Charlotte-street, Portland-place,
28th Sept. 1846.

DISTRICT SURVEYORS' FEES.

Sir,—Having just seen in The Builder of the 12th September, a letter signed "W. Woods," stating that he has lately been repairing the roofs of eight fourth-rate houses at Balham Hill, at a cost of 12*s.* each house, and that the district surveyor claims a fee of 10*s.* on each,—now the truth of the case is this, I have only made a charge of 10*s.* fee *on two houses*, the roofs of which have been the greater part stripped and new gutters laid, as shewn in my monthly return of December last.—I am, Sir, &c., Jno. Mullins.

St. John's Grove, North Brixton,
25th Sept. 1846.

Sewers in the Isle of Wight.—Last week tenders were delivered at Ventnor, Isle of Wight, for building sewers under the Improvement Commissioners. They required two tenders; one of them calculating the brickwork all 9-inch work, similar to the Westminster division, and the other for 4½ inch work, with radiated bricks in cement. A correspondent has forwarded to us the following list of the tenders delivered:—

	9in. work. £.	s.		4½ in. radiated B. £.	s.	d.
Brooks, Southampton	3,700	0				
Read, Ventnor	1,500	0	..	1,200	0	0
Ball, ,,	1,050	0	..	730	0	0
Starkey, London	1,030	0	..	780	0	0
Emett and Tew, Southampton	1,032	16	..	710	12	6

The commissioners adopted the 4½-inch work, and accepted Emett and Tew's tender.

Miscellanea.

Report on Iron Furnaces.—The report of Dr. Lyon Playfair and Professor Bunsen, of Marburg, on the conditions and products of iron furnaces, called for by the British Association, is said to be of the greatest commercial value to the prospects of our highly important iron manufactures, and at the same time full of interest to chemical science in some of the views which it developes. On the one hand it exhibits an entirely new theory of the reduction of iron from the ore by cyanogen gas as the chief agent; and, on the other, it shews that, in addition to a vast saving of fuel, about 2 cwts. of sal-ammoniac may daily be collected at the single establishment at Alfreton, where the experiments were made; thus leading us to infer that, in the iron furnaces of Britain, there may be obtained, from vapour which now passes away, an enormous quantity of this valuable substance, which would materially lessen the dependence of our agriculturists on foreign guano, a purpose, by the way, which is also at the present moment held forth in prospect as an advantage derivable from another proposed improvement in chemical practice, though it can scarcely be also called another new discovery in chemical science; namely, the proposed condensation of sewage into solid manure, as noticed below.

Condensation of Sewage into Solid Manure.—An explanatory lecture was delivered in our hearing at the Westminster Literary and Scientific Institution, on Friday last, by the patentee, Mr. William Higgs, who proved, clearly enough, the possibility of condensing, in a solid form, all that is valuable as manure in the sewage of towns, by collecting it in tanks, wherein all that is solid and insoluble, or merely suspended in the fluid, would, of course, subside, while by aid of calcareous or other reagents, the soluble phosphates, or phosphoric acid, &c., might be converted into insoluble salts, and precipitated amongst the general sediment, or apart from it; and the ammoniacal and hydro-sulphuric vapours, uniting in hydro-sulphuret of ammonia, be also condensed, by aid of chlorine, in covered air-tight areas above the tanks, and added, in form of sal ammoniac and sulphur, to the other valuable materials; the residual water of the sewage thus, in effect, being rendered perfectly pure before it issues into the river that may flow in the vicinity of the town. Into the question of the profitable and practicable adoption, or the relative merits, of such an economical and save-all system, it is not our province to enter; but we may remark, that certainly the health of towns could not but be vastly benefited by the absorption and solidification of the volatile and unwholesome vapours hitherto permitted to emanate from sewers, and even by the purification of the rivers, on the banks of which the habitations of man are so frequently constructed.

Plans for laying out the Jephson Gardens.—Relative to a letter on this subject in our paper of the 19th ultimo, a correspondent says, that none of the plans submitted were equal to what was desired (we should have wondered if they had been):—The plan selected as No. 1, the writer says, "was subsequently considered impracticable, and none of the others meeting with approval, the committee exercised a right they have, in attempting to procure what they consider more suitable, and invited Mr. Jackson and Mr. Squirhill to furnish designs for two lodges and other buildings, with full detail drawings, specifications, &c., and for which they are each to be remunerated by the sum of forty-two shillings, the designs to become the property of the committee! This is the 'job' complained of by 'one interested in the prosperity of Leamington.'" The result of competitions conducted as they now usually are, is every day less satisfactory, or we should rather say, *more* satisfactory to those who desire to see an alteration of the system. We have before us the particulars of a recent competition in Kensington and proceedings now going on there, which promise to be very instructive.

Fall of a House in Old Jewry.—Early on Saturday morning last, a party-wall and part of a large five-storied house fell, at the corner of Gresham-street, in consequence of the removal of an adjoining house. The only occupants, two females, escaped in their night clothes.

Effect of Pavements upon Health.—The causes of disease, which are being investigated so extensively at the present time, are sometimes traced to the most remote origin. It would enter the minds of few that pavements, which are constructed merely for the convenience of transit in crowded cities, are preventitives to ill-health; but such has recently been proved. The corporation of Liverpool having recently paved the courts and alleys of that town, it has been observed that the health of the people residing in them has wonderfully improved, and that deaths were less frequent. This led to further inquiry, and attention was directed to six of the worst courts in Liverpool. Of them, Mr. Carr of the southern dispensary remarks, that they were formerly so notoriously unhealthy, that the medical attendant was hardly ever out of them, and when any epidemics visited the town, these places exhibited their results in perfection; the surface being in a most disgraceful state, covered to some depth with putrid mud, so that the inhabitants were compelled to place large stones at intervals, to enable them to reach their houses by stepping from one to another. It is also stated by Mr. Samuel Holme that, in Freemason's-row, he found, about two years ago, a court of houses, the floors of which were below the public street, and the area of the whole court was a floating mass of putrified animal and vegetable matter, so dreadfully offensive that he was obliged to make a precipitate retreat; yet the whole of the houses were inhabited! Since these sinks of insalubrity have been paved, the change in the health of the inhabitants has been even more remarkable than what may have been anticipated. In one place (Bridport-court), which contains eighteen houses, the cases of sickness were eighteen before to four after the flags were laid down. In another alley (Oak-court), the proportion is five cases now to twenty-eight in former years; and, so far as observation has been extended, which it has been to fifty-seven of the houses, the fronts of which have been paved, to eighty-five cases of sickness which occurred before paving, only sixteen have taken place since.—*Chambers' Journal.*

Contracts for Iron.—At a meeting of the directors of the Birmingham, Wolverhampton, and Stowe Valley Railway, held at Birmingham in the latter part of the month just past, for receiving tenders, about twenty for chairs, and ten for rails, were sent in (varying considerably in prices), and from which the following were selected:—W. Sparrow, Bilston Works, 3,500 tons of rails and 1,000 tons of chairs; Lord Ward, 1,000 tons of chairs; and Messrs. Bradley and Co., Bradley Works, for 2,000 tons of rails. The meeting having been private, the prices could not be exactly given, but the rails, it is understood, were, on the whole, let for under 10*l.* per ton, the chairs for 7*l.* per ton; and, considering the number of railway projects on hand, and consequent demand for iron, the directors were of opinion that the contracts were effected on advantageous terms. The whole of the iron is to be supplied before the end of next year, and every possible effort will be made by the directors to forward the works.—A contract for 20,000 tons of iron was also adjudged about the same time to Sir John Guest, price 10*l.* a ton.

Railway Metropolitan Termini.—The *Observer* says, "The novel sight will soon be witnessed of many hundreds of men employed in the very heart of London in the construction of a railway. The London and South-Western Company have now got possession of nearly all the property necessary for the extension of their line to Hungerford Bridge, and the most active preparations are making for commencing the construction of the works without delay. There will be a magnificent station at Hungerford Bridge. The extent and style of the erection may be inferred from the fact that its cost will exceed 100,000*l.* The expenses of constructing the extension line from Nine Elms to Hungerford Bridge, including the purchase of property, will not, it is supposed, be under 600,000*l.*, making, with the station, 700,000*l.*, or the enormous sum of 350,000*l.* per mile.

Paddington Hospital.—A munificent lady has lately bequeathed 1,000*l.* to the new hospital. We hope this will put a little fresh life into the undertaking, and lead to something like work in earnest.

Preliminary Costs of Railways.—Welsh Midland *v.* Shrewsbury Railway. It will perhaps interest some of our readers to know, as the Welsh Midland Company are just winding up their affairs, that the cost per mile of the engineering, surveying, and legal expenses of that company was near 1,100*l.* per mile, while the Shrewsbury and Hereford cost only 500*l.* per mile. The former, as is well known, failed to pass the ordeal of the Standing Orders Committee, in consequence of grievous errors in the plans, &c.; while the latter company, notwithstanding the strenuous opposition of the Great-Western Railway Company, and a few landed proprietors, have succeeded with their bill, and are now making preparations to proceed with their works. The engineers to the former were Messrs. Stephenson, Gibbs, Sherrard, and Hall; to the latter, Messrs. Robertson and Baylis.

Effects of bad Ventilation.—In a report on the sickness among the Edinburgh Police, recently drawn up by Dr. Tait, the effect, upon the health, of an ill-ventilated section-house is noticed, and furnishes an additional example of the importance of pure air, and plenty of it. The men boarded in this house were the heartiest and youngest in the force, yet the ratio of sickness among the men out of the section house was 205·59, and amongst those in it 351·35, being a difference in favour of the former of 145·76. Out of the 37 men boarded in it, only one was found free from functional disorder, the prominent symptoms of which were great sensibility to cold, copious cold perspirations, constant sense of fatigue, pain in the eyeballs, and loss of appetite. Statistics will at last force upon us sound convictions. The progress of knowledge is slow and not unobstructed.

NOTICES OF CONTRACTS.

[We are compelled, by the interference of the Stamp Office, to omit the names of the parties to whom tenders, &c. are to be addressed. For the convenience of our readers, however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent Garden.]

For the works necessary in extending sewers in Devonshire-street, about 750 feet.

For the works necessary in extending sewers along Whitechapel-road, about 390 feet.

For the works necessary in extending sewers along Union-street, about 212 feet.

For the works necessary in extending sewers in Commercial-road, about 675 feet.

For the works necessary in extending sewers in Plummer's-row, about 790 feet.

For the whole works on two portions of the Glasgow, Dumfries, and Carlisle Railway: divided into several contracts.

For the supply of 500 tons of Kentish ragstone, broken to regular sizes, not exceeding two inches square, for the parish of St. John, at Hackney.

For 500 tons of best blue Guernsey granite chipping, for the Hackney Union.

For the execution of the works on the Newry, Warrenpoint, and Rostrevor Railway, from near Newry to near Rostrevor,—a length of about 8 miles, and for repairing same for one year.

For the construction of the East Riding branch of the York and North Midland Railway, from York to Market-Weighton, a length of 21 miles, or thereabouts.

For the construction of the various stations, buildings, or other works between York and Market-Weighton, on the branch line of the York and North Midland Railway.

For supplying and laying cast-iron water-pipes, cocks, and other castings for the service of the Plymouth Water Works (promptly).

For carpenter's work to be done at the Bury St. Edmund's Gaol and House of Correction.

For plumber's, glazier's, and painter's work, to be done at the Bury Gaol.

For making a cylindrical sewer in Regent-street, Cambridge.

For supply of a condensing steam-engine of 6 to 8-horse power, at Reading.

For the construction of a reservoir and filter-beds, for the water works at Warrington, including all earthwork, masonry, storing, diversions of roads and water-courses, &c. (promptly).

For the completion of the works of the Borough Gaol at Birmingham, and the supply of the necessary materials and labour for that purpose.

For the repair of the Yeovil turnpike-road (a length of 26 miles), for three years.

For making and laying the Newry and Enniskillen Railway, from Lisniak to Drumennis, a length of 8 miles, with all excavations, embankments, bridges, culverts, gates, fences, roads, &c., and for repairing the same for one year.

For making turn-tables and other machinery for railway carriages and waggons for the Dublin and Belfast Junction, and Navan Branch Railway.

For the building of all the stations and gate-keepers' houses on the Newcastle and Berwick Line of Railway.

For about fifty yards of pump trees, 6 to 9 inches in diameter, also for tram rails, at Willenhall.

For the building of the stone wall to surround the proposed Church of England Cemetery at Warstone.

For taking down and reconstructing Looe-bridge, Cornwall (further tenders wanted).

For 3,500 tons of malleable iron railway bars for the East and West Yorkshire Junction Railway.

For about 1,300 tons of cast-iron railway chairs for the East and West Yorkshire Junction Railway.

For supplying the Maryport and Carlisle Railway Company at Maryport and Carlisle, with the following fence rails and posts, viz., 2,000 rails 10 ft. 8 by 3½ in. and 1 one-eighth in.; 2,000 posts 5 ft. by 3 in. and 2½ in.; 1,000 posts 5 ft. 6 in. by 4 in. and 3 in.; 1,000 posts 5 ft. 6 by 3 in. and 3 in.; and 1,000 posts 5 ft. 6 by 3½ in. and 3 in.

For building lock-up cells and turnkey's residence, at Hartshorn, Derbyshire.

For the execution of the whole works of the Dundee and Arbroath Junction with the Arbroath and Forfar line at Arbroath,—a length of nearly a mile, with earthwork and bridges of considerable extent.

For about 1,000 tons of cast-iron railway chairs for the Edinburgh and Northern railway (extension of time).

For 30,000 railway sleepers for the Edinburgh and Northern railway (extension of time).

For 45,000 railway sleepers of foreign timber for the East and West Yorkshire Junction Railway.

For the construction of the various stations, buildings, and other works between Church Fenton and Harrogate on the Church Fenton and Harrogate branch of the York and North Midland Railway.

For four good draughtsmen experienced in drawing bridges and other railway works, for the East Lancashire Railway Company.

For letting a small iron-foundry at Lincoln: rent taken in castings.

For an engineer, to go to Mexico to superintend engines, and prepare drawings for engine works: also

For a smith and a carpenter, both accustomed to mine-work—to go also to Mexico.

For an indefinite number of good marble masons: constant work at Bradford.

For labourers to inclose several hundreds of acres of waste lands with stone or turf, at St. Agnes and Perransabuloe, Cornwall, at per yard of eighteen feet in length. N.B. Leases of land given to said labourers on Goenvrea Commons for 21 years, at 1s. per acre.

For an inspector (salary 150*l.*) and two surveyors (salary 80*l.*) for the City of Edinburgh Paving Board.

For 10 or 12 good moulders (not club-men) at full country wages, at Reading.

For the letting of a carpenter's yard at Knottingley, Yorkshire, fitted up with every convenience for the business.

For the election of two poor lame painters to Mr. Stock's charity, at the Painters' Hall, Queenhithe.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At Norton, Long Buckley, and Welton: 600 maiden oak, ash, elm, sycamore, and poplar timber trees.

At Dunham Lodge, Norfolk: about 300 oak, ash, beech, and alder timber-trees and stands, 20 dozen hurdles, &c.

At Ilchester Jail (unless previously disposed of in one lot before 2nd October): all the building materials of said jail.

At Sheffield: an extensive assortment of cedar, ebony, box-wood, and pheasant-wood, &c., suitable for engineers, cabinet-makers, &c.

At Broomfield, near Chelmsford: a large quantity of useful oak and elm trees, willows, larches, ashes, apples, walnuts, &c.

At Earith: a quantity of building materials, comprising fifty fine large oak piles and bearers, and a lot of fir timber, deals, and oak planking, with 20,000 bricks, a quantity of iron &c., in lots.

At Ipswich: a quantity of oak slabs, &c.

BY PRIVATE TENDER.

At Greenwich hospital: 9 lots of oak, larch, beech, spruce, and other timber.

At Birmingham: a rotary cylinder; diameter 19 in. by 6 in. (or would be exchanged).

At Leeds: three second-hand boilers 25 horse-power each, suitable for railway contractors.

At Ludgate-street: two wrought-iron panelled doors, 7 feet high and 6 feet 8 wide; also two other doors, 7 feet high, 3 feet wide for party-walls, suitable under the new Buildings Act.

At the Adelphi: a cast-iron tank 32 feet by 19 feet 6, and 4 feet 2 deep, for holding 15,000 gallons in two quantities, being divided.

At Salisbury: a second-hand church or turret clock.

At Carnarvon: a slate quarry.

At 39, Great Tower-street: a 12-horse condensing steam-engine, made for the Bank of England.

At Newington Causeway: steam saw mills.

TO CORRESPONDENTS.

"*Tar and Gravel Floors.*"—A correspondent wishes to know the best method of making floors with a composition of gravel and gas tar.

"*St. Giles's, Camberwell.*"—We are asked to say who directed the removal of the paintings from the pulpit of this church, but have not had time to inquire into it.

"*F. T.*"—We are much deceived as to our correspondent's intelligence if he has read *carefully* the papers referred to.

"*S. N.*" will find some remarks on lightning conductors in our present number.

"*Observer.*"—We understand that a carriage entrance to the park near the spot pointed out is contemplated.

"*Westminster Bridge.*"—Correspondents ask us if designs will be obtained by competition. We believe nothing is yet settled.

"*A Practical Designer.*"—We will look to the criticisms complained of. As a general rule, however, we do as well as we can ourselves, and avoid finding fault with contemporary journals.

"*A Carpenter.*"—We do not know the depth of the deepest shaft in England.

"*X. Y. Z.*"—Chimney backs in lowest story of third-rate house must be 14 inches thick if in party wall; 9 inches if in other wall.

"*Arnott's Valve.*"—Purchase a penny pamphlet on ventilation, published by Churchill, Prince's-street, Soho.

"*Constant Reader*" (Doings of Official Referees), next week.

"*Suburban Reader.*"—Ditto.

"*H. B.*" shall appear.

Received.—"F. T." (Roman Cement), "G. W.," "A. J. G.," "Subscriber" (Stourbridge), "G. R. L.," "O.," "J. M.," "Q.," "R. C. S."

ADVERTISEMENTS.

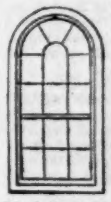
HERRING'S PATENT SAFETY WINDOWS.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it, repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind, all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to Herring's Patent Steam Bed-feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,

Manufacturer of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices. Upwards of 400 Doors and a large variety of Sashes and Frames always on Sale. Glazed goods securely packed for the country.

Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON & PASK,
1, AMWELL STREET,
Clerkenwell,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiner's work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Work done in the very best manner; French Polished, and carefully Packed for the Country.— A full list of prices forwarded by return of post to any part of the country.

DUTY OFF ORNAMENTAL WINDOW GLASS.

CHARLES LONG begs to inform his Friends and the Public, that he can now supply Ornamental Glass from 1s. 3d. per foot superficial; and borders from 9d. per foot, run; and having just built two of the largest Kilns in London, is enabled to execute extensive Orders with unprecedented dispatch, 1, King-street, Portman-square.—Terms, Cash only.

PAINTED GLASS.

THE Subscribers, who have been appointed to furnish the PAINTED GLASS for the WINDOWS of the HOUSE OF LORDS, are ready to prepare Designs adapted to every style of Ecclesiastical or Domestic Architecture, and to execute Work, to any extent, within the shortest possible period.
BALLANTINE and ALLAN, 42, George-street, Edinburgh.

SUBSTITUTE FOR GLASS.—Transparent Sheeting, to cover in Windows, 1s. per yard, nearly 2 yards wide. Waterproof tarpauling, 2 yards wide, 1s. 2d. per yard. Wire fencing, 2-inch mesh (close enough to protect from rabbits, &c.), 9d. per yard, 4 feet high; may be had wider or narrower. Very thick tarpaulings, 2s. per square yard. Roofing canvas, as thick as floor-cloth, 1s. per square yard.—ROBERT RICHARDSON, maker of tarpaulings, 21, Tonbridge-place, corner of Judd-street, New-road, London.
N.B. Tarpaulings lent on hire.

TO THE PLATE GLASS TRADE.

THE BIRMINGHAM PLATE AND CROWN GLASS COMPANY, "Registered," beg to inform the Trade and Public, that the extension of their Works at Smethwick, near Birmingham, being now completed, their Warehouse, 141, Fleet-street, London, is now open for the Sale of their Crystal Plate Glass, which will be found to stand unrivalled by that of any other manufactory. They are also in a position to supply Rough Plate of any substance for Skylights or Floorings on the shortest notice.—Orders addressed to B. MOSS, Company's Warehouse, 141, Fleet-street, London, will be promptly attended to.

WINDOW GLASS, LEAD, VARNISH, and COLOUR MANUFACTORY.—Crown Window Glass, in squares under two feet, 4½d. per foot; glazing, 5d. per foot; sheet glass, 4d. per foot; best white lead, 26s.; seconds, 24s.; thirds, 22s. per cwt.; linseed oil, 2s. 2d.; boiled oil, 2s. 6d.; turpentine, 3s. 9d.; fine oak varnish, 10s.; carriage, 12s.; copal, 14s.; body copal, 20s.; gold size, 10s.; paper varnish, 10s.; linseed oil putty, 7s. 6d. per cwt. per firkin; patent dryers, 42s.; black paint, 28s.; lead colour, 24s.; Oxford ochre, 42s. per cwt.; best pan water-closet, 34s. complete; ¾-brass cocks, 2s. 8d. each. Milled sheet lead, patent pipe, beer-machines, tapping-cocks, and brushes and colour of every description. Thomas Millington being the manufacturer, can supply a much better article than most other houses. Address, THOMAS MILLINGTON, 87, Bishopsgate-street Without, London.—Established upwards of 90 years.

SASHES primed, glazed, and sent to any part of London at 5d. per foot.

BUILDERS, PAINTERS, GLAZIERS, and others, supplied with every article used in the trade upon the best wholesale terms.

FOREIGN SHEET. BRITISH SHEET.
BRITISH CROWN. PROPAGATING GLASSES.

Coloured and Ornamental Glass, Flatted Crown, and Sheet Plate, for Shop fronts, Shew-cases, &c. The largest stock of Cheap Glass in London for HORTICULTURAL PURPOSES.

Dry and Good Colours of the best quality; Brushes Dryers, and every article used in the Trade Warranted.

VARNISHES and GENUINE WHITE LEAD; MILLED LEAD IN SHEETS 22s. per cwt.; Lead Pipe 23s. per cwt. Pumps, Water-closets, Basins, Brass-work, and all materials used by Plumbers.

For complete lists priced.—Address to R. COGAN, WINDOW GLASS, LEAD, and COLOUR WAREHOUSE, 5, Princes-street, Leicester-square, London.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.
Apply at W. CLEAVE'S Timber Yard (late C. Moore and Son), Wilton-road, Pimlico, and Great Smith-street, Westminster.

ALWAYS ON SALE at A. ROSLING'S, SOUTHWARK-BRIDGE-WHARF, BANKSIDE, at Old-Barge-Wharf, Upper Ground-street, Blackfriars, and at Hy. Castle's, Ship-yard, Millbank-street, Westminster, a large, very general, and well-seasoned stock of all kinds of Prepared Floor and Match Boarding, planed to a parallel breadth and thickness, fit for immediate use; also a great variety of machine-prepared mouldings, very accurately finished.
A. R., in calling the attention of builders and consumers, confidently presumes on being able to supply them on such terms as will ensure and merit their favours, &c.

DRUCE'S No. 2, WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weighbridge and draw-dock.—N.B.—Depot for Glass Pantiles.

T. ADAMS (from Byron and Co.), late S. Dare, Mahogany, Timber, and Deal Yard, New-road, Bermondsey, near Bricklayers' Arms, has always in stock mahogany, cedar, wainscot, elm, beech, oak, &c. Pantile oak and fir laths, scaffold poles, putlogs, &c. Wheelwright's goods, veneers, cut deals and scantling of every dimension. Also a large assortment of SEASONED FLOORING, MATCH BOARDING FIT FOR immediate use, and MOULDINGS prepared by machinery, all at reduced prices.

MUIR'S PATENT PLANING MACHINERY.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any Size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor-canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

TIMBER and DEAL SAWING and PLANING MILLS, Belvedere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, dispatch, and economy of material are so certainly obtained. In shooting, or grooving and tonguing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

ZINC WORKS, 15, New-road, Fitzroy-square, London.—W. STAMPER, Manufacturer of Ornamental Conservatories, Greenhouses, Window Sashes, Sky-lights, Fan-lights, Flower Cases, &c. &c.
Zinc sash-bar mouldings, bell-wire rope, &c. &c. Perforated zinc for safes, ventilators, &c. &c. Roofs, flats, and verandahs, covered on the newest principle. Manufacturer of the improved Sliding Glass Pane Ventilator.—ZINC WORKS, 15, New-road, opposite Fitzroy-square.

TO ARCHITECTS, BUILDERS, & BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to 12-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO ENGINEERS AND BOILER MAKERS.
LAP-WELDED IRON TUBES FOR STEAM BOILERS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY, 42, Cambridge-street, Birmingham, and Smethwick, Staffordshire, manufacture Tubes under an exclusive License from Mr. Richard Prosser, the Patentee. These Tubes are now very extensively used in the Boilers of Marine and Locomotive Steam Engines in England and on the continent, are stronger, lighter, cheaper, and more durable than brass or copper Tubes, and warranted not to open in the Weld. They may be fixed in the Boilers without Ferules, and can be taken out and refixed without additional trouble or expense.—Address, 42, Cambridge-street, Crescent, Birmingham; London Warehouse, 68, Upper Thames-street.

WORCESTER ENCAUSTIC TILES

Specimens of these beautiful Tiles in all their Varieties, may be seen and information obtained at the London Agents, Messrs. GRIEVE and GRELLIER, Marble-wharf, Belvidere-road, Waterloo-bridge, or at the Encaustic Tile Works, of Messrs. F. ST. JOHN G. BARR, and Co., Worcester.

ENCAUSTIC, VENETIAN, and other PATENT TILES and MOSAIC PAVEMENTS may be purchased at MINTON and Co.'s warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge.—J. M. BLASHFIELD, Agent. The above tiles have lately been considerably reduced in price.

N.B. An assortment of plain and ornamental door furniture, slabs, and tiles for fire-places, &c.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvedere-road, Lambeth, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of 100 sorts and sizes.—The Public is respectfully informed, that Mr. PEAKE has removed his Depot from Whitefriars to No. 4 WHARF, MACCLESFIELD-STREET South, City Basin, London, where a large Stock is on Sale of genuine Terro-Metallic Goods. No Agent. Roofing in Grecian and Italian styles, other devices also, or plain; ridges and hips, with plain or capped joints, roll tops, or vertical ornaments; paving, in 6 in. 7¼ in. and 9 in. blue and red squares, in 6 in. blue and red hexagons, and in 8 in. blue octagons, with 3 in. drab squares. Drains, many sizes, with butt or socket joints; conduits, which will not injure pure water; tubular and other flues, of proper material; channels, large clinker bricks, and outdoor paving; sundry wall-coping, fire bricks and tiles, garden-edging, chimney tops, &c. The Tileries, Tunstall, Staffordshire, are near the centre of England, whence boats are sent to any inland place, or to the Mersey, for the coasts, the colonies, and elsewhere. A Wharf at Whitefriars to be let for a term.

TO ARCHITECTS, BUILDERS, AND THE PUBLIC IN GENERAL.

GEORGE JENNINGS, of 29, GREAT CHARLOTTE STREET, BLACKFRIARS ROAD, begs to call the attention of Architects, Builders, &c., to his REGISTERED FASTENING for SHOP SHUTTERS, &c., which entirely supersedes the use of shutter-bars. Thereby effecting a great saving of labour, as by the old method, the bar has to pass through the hands of some one upwards of six hundred times in twelve months, which tends to deface the whole front more or less every time the bar is put up or removed. The fastening is secret, simple, and sure, in its action, and can be affixed to any shop-front in two hours, without any alteration to the shutters. New fronts fitted at a less expense than a shutter-bar would amount to. A liberal allowance to the trade, and any further information may be obtained by inclosing a postage stamp to the above address.—A Model may be seen at the office of "The Builder."

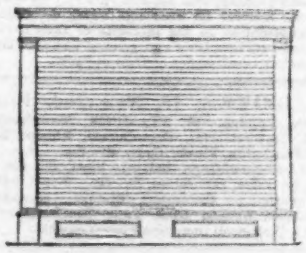
SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS,

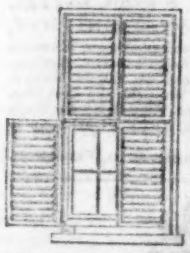
Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee can confidently recommend these Shutters for both security and durability. The edges being sheathed with IRON, and the cost little more than common shutters, their construction so simple, that the largest establishment can be opened or closed in a few moments with the greatest possible ease without the use of machinery. Their superiority over other Revolving Shutters consists in being made without metal hinges, consequently cannot rust, buckle, or get out of order, and are equally safe. W. SNOXELL will have much pleasure in giving reference to numerous establishments where they are fixed, having on all occasions given the greatest satisfaction.

IMPROVED PATENT CONVEX IRON REVOLVING SAFETY SHUTTERS.

PATENT SAFETY IRON SLIDING SHUTTERS.





The attention of Architects, Builders, Blind Makers, and the Trade generally, is particularly requested to the IMPORTANT patented IMPROVEMENTS in the above enumerated Articles, and inspection invited, at the Manufactory of the Patentees, R. HOWARD and Co., 115, Old Street, London; or at the Licensees.

Engravings and Prospectuses may be had at the above address, or will be forwarded on application.

The great importance of STRENGTH and STIFFNESS in the Laths of REVOLVING IRON SHUTTERS, when required for SECURITY, is so obvious, that it is only necessary to point out the fact that the PATENT CONVEX LATHS ARE 12 TIMES STRONGER THAN THE ORDINARY FLAT LATHS (as shewn by the engravings and prospectus), to ensure their general adoption.

REVOLVING IRON SHUTTERS MADE OF THE COMMON FLAT LATHS, AT A VERY CONSIDERABLE REDUCTION OF PRICE.

CAUTION.—The Patentees beg to caution all persons against Making or Using SUCH LATHS for REVOLVING IRON SAFETY SHUTTERS, so as to obtain increased strength or stiffness; as they thereby render themselves liable to legal proceedings for infringing this patent.

Licenses Granted.

LIGHTNING CONDUCTORS FOR BUILDINGS.

A. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms; it possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c., &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

A. SMITH begs the attention of those engaged in building to his IMPROVED PATENT PANELLED AND REVOLVING IRON SHUTTERS,—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of his

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

Little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

A. Smith, 69, Princes-street, Leicester-square, London.

INJUNCTION.

BUNNETT and CORPE'S Patent REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Chancery, that Court has granted a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and wheel motion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enables the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with thin convex laths.

B. and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC SASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

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COMMISSIONERS OF FINE ARTS' REPORT ON THE MEANS OF PREVENTING DAMP IN WALLS.

THE DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of Architects, Builders, and others, the application of the ASPHALTE of SEYSSEL as the only effectual means of preventing DAMP rising in WALLS.

J. FARRELL, Secretary.

Seyssel Asphalte Company's Works,
"Claridge's Patent."
Stangate Depôt, London.

The following account of its application is extracted from "The Appendix to the Commissioners of Fine Arts' Report," page 18:—

"In 1839 I superintended the construction of a house of three stories on the Lac d'Enghien. The foundation of the house is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered, at the level of the internal ground-floor, with a layer of SEYSSEL ASPHALTE, less than half an inch thick, over which coarse sand was spread.

"Since the above date no trace of damp has shewn itself round the walls of the lower story, which are for the most part painted in oil of a gray stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted, yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water.

"The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."